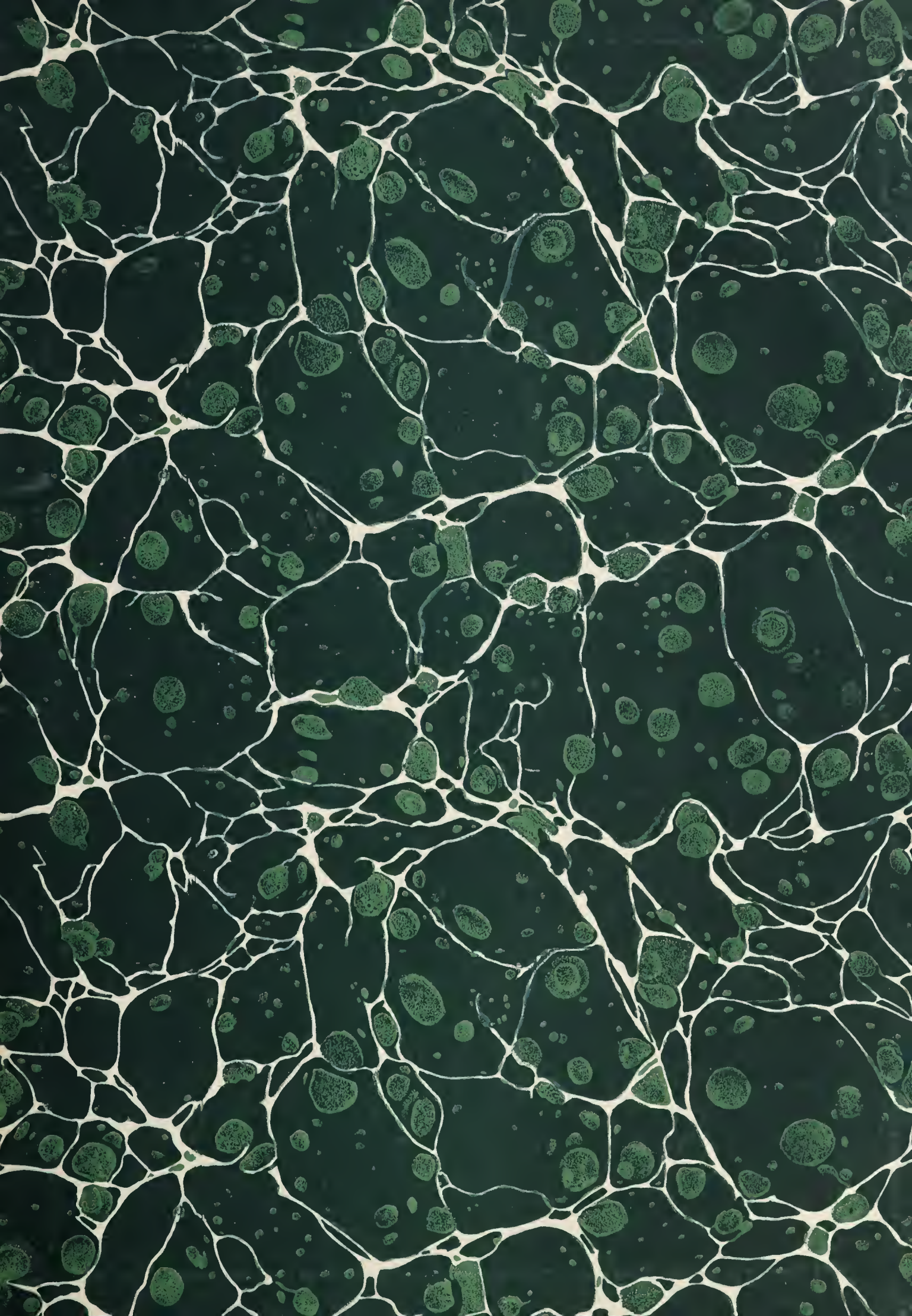


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U.S. National
Arboretum Library



Washington, D. C.,

May 6, 1909.

Professor C. V. Piper,

Office.

Dear Prof. Piper:

In regard to the talk we had yesterday about the various grasses, I sent in from China, Manchuria, and Korea, I am acting upon your suggestion and send you herewith a list of names with their S.P.I. numbers.

Hoping you will be able to supply me at your earliest convenience with a few brief notes about their behavior, I am

Yours very truly,

FRANK H. LEYER.

Washington, D. C.

June 24, 1909.

Dear Mr. Fairchild:

As I reported to you verbally some weeks ago, I had a long talk with Mr. Taylor about trying to prevent the wholesale failures of making pear and Crataegus scions grow on arrival here in the United States, such as we experience with the material sent in from Asia.

Now, my idea is to treat the various material in the future the same way you did the persimmons, viz., to select a few good establishments where a certain product is made a spec-

ialty of. Mr. Taylor suggests the following firms: for northern and European pears, Ellwanger & Barry, Rochester, N. Y.; for pears from southern localities and Oriental pears especially, W. F. Heikes, Huntsville, Ala.; for large fruited Chinese haws, Keehans Nurseries, Dreshertown, Pa.; where they make a specialty of Crataegus, or Wm. H. Moon Co., Morrisville, Pa., where the expert propagator, Mr. Barthrop, is located, with whom Mr. Taylor is acquainted.

For peaches, we still have to find a few men, although I think that the Glen St. Mary's Nurseries could probably handle them as successfully as they did the persimmons.

Trusting that arrangements with the above parties can be made at the time I am going out again, I remain

Very sincerely yours,

FRANK N. MEYER.

Washington, D. C.

August 5, 1909.

Dear Mr. Fairchild:

Let me thank you kindly for your pretty postal from Quebec. Yes, the change of climate from this humid sweat-box to bracing Canada must have been great and still, do you know that the very afternoon you left a cool wave began to descend



upon us here and it has been even cold these last nights. Dr. and Mrs. Iann shivered in their beds "In the Woods."

What news I have, well quite some. Yesterday I have been bonded and had the sensation of having a check for \$6000 in my hand after having run through the Treasury Department for about four hours. Mr. Long took it all upon him, if I had been alone, it might have taken two days. Yesterday my new appointment together with Letter of Authorization came and today at last my letter of instructions. Doesn't it go slow? It actually seems to get worse, this red tape machinery. This morning Dr. Galloway had a talk with me and then we went to see the Secretary to whom we explained the aim and purposes of this coming trip. The Secretary felt obliged to say that what he wanted above all things were grains and legumes. Fruits, he said, we do not want really. The world could get along just as well without them.

Well, that is his view, of course. But in case we could show him right now how much money the peach crop alone is bringing in these last days, perhaps he would come to terms. Anyway, he wished me good luck and a pleasant journey and we departed on the best of terms. I believe Dr. Galloway was decidedly pleased that matters have moved along so nicely.

Today I have settled my financial affairs and have sworn again to defend the Constitution, etc., and now the great packing-in is coming and some time next week I hope to leave for England.

The Primocet camera hasn't arrived as yet. We have wired to Crandall about it and got reply back. Mr. Baker said he delivered it to Crandall and Crandall says he didn't get it. The near future will learn us what has happened.

Dr. Van Fleet left again for his old home in Little Silver to wait there for a definite order from Mr. Dorsett. It was a disappointment to him to have to wait so long. Mr. Wester is in Washington. He is still a sick man. He weighs only 110 pounds. He said, though, he is improving daily and likes it better here than in Ashville, North Carolina.

The new cents have come out with Lincoln's image on them. They are very artistic coins indeed and a brisk trade is done in them by news boys; the rates were today 2¢ apiece or 3 for a nickel.

This afternoon we have had a severe thunderstorm here. I would not be a bit surprised if over one inch of rain had fallen. I do hope it rained out on your place, too, for the stuff need some water.

And how are you both getting along over there in the Old World ? I hope you had a very pleasant trip.

Well, I guess I better conclude for this time. With best wishes and regards for both Mrs. Fairchild and yourself, I remain

Yours most sincerely,

FRANK N. MEYER.

P.S. My address will be c/o Parr's Bank Lim., 4 Bartholomew Lane, London, E. C.

New York City, N. Y.

August 13, 1909.

Mr. H. A. Young,

Washington, D. C.

Dear Mr. Young:

I forgot in all that hurrying to give you my address. Please forward any mail to the above. That is, wait until there is an accumulation of several letters and then send them up in a bunch. I also thought my M.S. would be better in a drawer somewhere.

Well, goodbye, then.

Sincerely yours,

FRANK H. MEYER.

Cunard R.M.S. "Carmania."

August 18, 1909.

Dear Mr. Dorsett:

As you probably know, ere this letter reaches you, I have left America and have started my second great journey which may last again a few years. Well, I am glad I am again on the road. As you realize, it was pretty hard on me there in hot and humid Washington and to be cooped up in that little office. I hope I will never be again subjected to such a compulsory sit-down-at-your-desk treatment. Not that the journey I intend to



make will be of the easiest, oh no, far from it, but then one has a different life altogether. A bad day is forgotten when a good thing turns up and there is a change all the time. In my thoughts I live again a few years ahead and see all the material I collected, growing here and there in the United States and maybe when I am older I will have a station of my own where I can create such plants and shrubs as there is a need for.

We are here on a very luxurious vessel and there are stewards and waiters galore. They will all hold their hands up next Sunday morning when we hope to land in Liverpool; as Uncle Sam allows but \$5.00 for combined tips, we will have to add something of our own. The weather we have experienced up to the present has been very various. Sunday and Monday were simply fierce. The boat rolling up and down, the towering waves, and I assure you that a goodly part of the passengers didn't eat much and some even had to give in to the sea that which didn't want to stay within them. How do you like the sea? I myself consider it a real nuisance and would not mind it a bit if we could overbridge it with some sort of a material and make terra firma from it. Not that I get seasick, no, not at all, but I consider it such a waste of time to stay aboard a ship for such a number of days or sometimes even weeks.

And now, how is your journey proceeding? I know you had a big job there in Miami. I hope you found Brooksville a whole lot easier than the above place. I envy you your trip



through California. I really wish I could have found an opportunity this summer to have paid a visit to the Coast. Well, some other time.

You are having Dr. Van Fleet with you now as a companion. I hope he will find the Chico garden congenial to his wishes. As you know, he is really used to somewhat more than a regular propagating garden. I wonder what your sensations will be after reaching Chico, where you spent so many hours in sorrow and in satisfaction. It is a good thing anyway, that you are making this long trip before settling down to the real work. It will be of as great a benefit to yourself as to our office in general.

Last night we had a concert and minstrel show aboard this boat. It was quite a break in the monotony of sea life and the money they collected went to the Liverpool Asylum for Orphans whose fathers had perished through dangers and perils of the sea. They collected about 90.00 from the passengers. Quite something, eh, when you realize that after all the boat is only half full.

Well, do you know I wish I was already in Central Asia. This long trip I have to take through Europe is worrying me some for I have to pass several frontiers and all my baggage will be examined every time. I will try to ship the bulk of it to St. Petersburg direct, although I run the danger of having it disappear somewhere. Exploration has its worries too!

Well, another day or two and we will sight Ireland where this letter will be landed and tell you that I reached the other side.

Goodbye; best regard to all of those who know me.

Sincerely yours,

FRANK H. MEYER.

Cunard R.M.S. "Carmania."

August 19, 1909.

Dear Mr. Fairchild:

You are probably aware ere this letter reaches you that I have started my second great trip. Yes, things went in a hurry these last times. My packing-in of all the stuff I have to take with me bothered me some, but I got it all O.K. now and was able to see it aboard on time. I wonder what kind of weather you experienced when crossing this pond. We haven't been very lucky. Saturday was a fine day, but Sunday and Monday were fierce. Especially on Monday the attendance at the dinner tables was pitifully small. Tuesday and yesterday were fair days, but today the breeze is growing stronger again and rain comes down once in awhile. I despise the sea and hope we will be able some day to invent a material that will overbridge it and upon which we will be able to live. How about evaporation, you will say. Oh, well, we will construct reservoirs and practice more irrigation

than we do now. The world will have to do that anyway as this globe of our gets to be older.

A few days before I left Washington I spent the night with Mr. and Mrs. Ham on your place. I gave advice in certain matters of transplanting and cultivation but may say that in general the place is in very good shape. The Chinese poplars have grown a few more feet and those Chinese cabbages are beginning to look wonderfully good. I am real sorry I won't see them to perfection. It is dry around Washington as in fact in the whole East. Let us hope they had some wet weather since.

You probably received Mr. Young's letter re the camera. I hope to find it at Brown Bros. Really amusing, this incident of Mrs. Bell, after she herself had gotten considerably excited about our supposed Crandalls actions in this matter.

In Mr. Fischer's report on his visit to the Arnold Arboretum he mentions the fact that a considerable number of Wilson's plants may be lost again to the American public owing to their not being hardy in Massachusetts. Couldn't we put some in our new station in Brooksville, where the climate resembles Japan and Central China very much, indeed. It seems a shame for a rich and large country like the United States to be not even able to take care of some rare and valuable plants!

This ship is a luxurious one and there are stewards, waiters and attendants galore. They all will hold up their hands next Sunday morning when we hope to land in Liverpool. That part of the business is always disagreeable to me. The

people too on a luxurious vessel never become so intimate with one another as on smaller or less elegantly outfitted ships. In fact, these boats are more or less floating hotels and people behave accordingly. Last night we had a concert and minstrel show for the benefit of Orphans of seamen. It was quite a success and there was nearly (\$90.00 collected. We have the American Ambassador to Japan aboard (Mr. O'Brien). He acted as chairman to this entertainment and at the end the audience sang "My Country 'Tis of Thee." and "God Shave the King." after that the majority hunted up their bunks and no doubt dreamed the sweet dreams of the innocents.

Well, and how are you and Mrs. Fairchild getting along in Europe. I hope you find some beautiful, quiet places after all. I myself, too, would not mind if I could find a poetical spot where the idea of a real rest could penetrate me, for strange to say, the sea gives me no rest. Just the opposite. I begrudge myself the great amount of sleep she gives me, for sleep is often a waste.

Well, a few more days and Queenstown will appear before our eyes and this message will probably be landed there telling you my approach to the tight-little, bright-little island.

With best wishes and greetings to you both, I remain

Yours most sincerely,

FRANK M. MEYER.

August 31, 1909.

Dear Mr. Fairchild:

To say that I am sorry I did not meet you here in Old England is only a mild way of expressing it; it really was painful to know that you were here, but that Fate prevented us from meeting one another. You stated in your telegram this: "I HAVE YOUR CAMERA JUST DISCOVERED. IT WILL BE AT BROWN'S HOTEL, DOVER AND ALBEMARLE STREETS SUNDAY 22nd." Now why didn't you state I will be there?

As your message was from Edinburgh I simply thought you had sent it up after receiving a letter from Mr. Young and one from me.

Well, it is passed now. Tomorrow I will be at Antwerp to meet my father, mother and other relatives who are all too eager to see the exile who has been away now for well nigh 8 long years.

I found out today when calling for the camera at Brown Shipley, that you were at Worcester and I called last Sunday four times at the Greyhound and hunted all over the town of Richmond and through Kew Gardens; on Monday I also waited for you and went again to the Greyhound and left a letter for you in the Curator's office. Today I was looking for you at the flower show the whole afternoon, although I suspected that my mail to you must not have reached you.

Wilson exhibited a few hundred photos and Veitch's Nursery of Combe Wood had some novelties in Western Chinese

plants. Later on I will write more in detail about these matters.

I expect to be pretty well busy with my relatives until the beginning of next week. Then I will see Mr. Jean Houzeau de Lehaie at St. Symphorien Lez Mons, whose bamboo collection I will look over and then I will go to the Vilmorin's arboreta and to Anger for the apple root crown gall investigation, then to Hamburg for that Azolla, then to Berlin and soon after that I will land in St. Petersburg where I will probably be busy for several weeks. I have written Ambassador Lockhill that I am coming and he will probably be able to assist me a good deal in getting various permits into shape. I really like to get out as soon as possible to my fields of work, although one has to pass through the European centers of accumulated knowledge to find out what the world knows about the lesser known lands.

In the wonderfully rich New herbarium I looked up a lot of material like the genera of Diospyros, Airus, Palus, Populus, Ulmus, Aistacia, Lathyrus, Medicago, Ficus and others and I have learned much. Some other time when I have more leisure, I hope to be able to make a more prolonged study in this herbarium. If I had known that New after all is rather poor in North Chinese material and that this generally despised material is of an immense assistance to an explorer like myself, I most certainly would have collected more. It really hurts me now to find out how much more useful I could have been to mankind. But, I was shipped off in a hurry and didn't realize all such matters.

Well, it is getting late in the night and I will have to finish some packing yet.

Goodbye, my best regards also to Mrs. Fairchild.

Very sincerely yours,

FRANK W. MEYER.

P.S. c/o Poste Restante, Antwerp, Belgium, until September 7, inclusive.

Mr. McGregor invites me to come up to Edinburgh where he will be from September 2 to 9, but I don't see it possible to be there. I would rather be in St. Petersburg before the frost kills off all the vegetation.

Dr. Augustine Henry is out in Servia somewhere and may not be back until 10 or 14 days from now.

Mr. E. H. Wilson expects to leave for the United States the 18th of September. He will be busy preparing from now on and has to travel yet a bit here in England.

Dr. F. L. Britton works in the Herbarium for another week or so.

Veitch's Nursery at Combe Wood near Kingston Surrey is most certainly well worth visiting. The new Chinese poplar (Populus lasiocarpa) with leaves sometimes a foot long is very interesting, utterly unlike other poplars.

Too bad, indeed, we missed each other.

F.W.M.

Antwerp, Belgium,

September 4, 1909.

Dear Mr. Fairchild:

Your letter of August 29th written in Chester reached me yesterday here in Antwerp. I looked at the post mark and saw it was stamped at 10 P.M. August 29, Chester, so why it should have been delayed so much is a puzzle to me, unless the postal authorities delivered it to one of the many branches of Farr's Bank as you hadn't put the full address on the envelope. I hope various messages have reached you since you wrote your last letter to me.

About seeing Steward and Forrest, well, if you think it necessary, I'll do it, but it is a long journey again and a good man is partly a gamble; that is, a man may be excellent in a certain place and yet not be able to adjust himself to new conditions. When you feel that Steward would fit into our special needs, well, why not make some kind of a proposal after Mr. Dorsett has come back and we know exactly what we are going to do. About Forrest, well, could money be found to explore South China? We want citrus fruits, southern root crops, cover crops, etc.; there is a big field. Wilson himself paid apparently very little attention to such things, but one can easily explain that. The bigger part of Chinese useful plants cannot be grown in England or in fact not in Northwestern Europe and few Europeans are able to realize their importance to America unless they have been there.

I wish we could meet here or there yet and talk about

these matters.

I received a letter from Mr. J. Houzeau de Lehaie at St. Symphorien Lez Mons, Belgium, who says he will be very glad to see me and hopes you will also find an opportunity while you are in Europe to see him. I will probably see him at the close of next week.

And now a few words about the visitors I am entertaining here. All my near relatives are here and we are a crowd of 8 people. I am, of course, the most popular member and they want me to talk for hours and hours about all my experiences. We all find that we haven't changed so very much after all. I find Dutch a trifle difficult, but am soon getting familiar again with various ways of expression that were somewhat new to me. I am glad we are able to talk again about ever so many things which one doesn't care to write about and which one wants to be informed about anyway.

As I wrote you I obtained the camera at Brown, Shipley's office. I haven't tested it yet. I also wrote to Brown's Hotel to forward you a card which I had addressed you there. In the Curator's office at Kew I left a short letter which is now of no value any longer and which may be sent back to me or destroyed in case you shouldn't call for it.

Well, it is raining hard now here and I hope you'll have it less cool, not to say cold as it is here. Could we but blend the two climates, viz., that of the East coast of America and that of the West coast of Europe.

764.

Goodbye, my best regards also to Mrs. Fairchild.

Very sincerely yours,

FRANK H. MEYER.

Paris, France,

September 12, 1909.

Dear Mr. Young:

Let me thank you for your two letters of August 18 and August 23, 1909, which I received in Antwerp. I also received the three field diaries; the bulletin of F.P.I. No. 19 and the clippings of the Washington Post and Times with their highly amusing accounts of my intended trip. Mucho gratia!!

In answer upon your question whether I desire to receive the succeeding numbers of the bi-weekly bulletin, I say yes. It keeps me somewhat in touch with the office and besides that it undoubtedly will give me hints and suggestions while out in the field.

I haven't been able to see Mr. Fairchild at all, while in England. Our mail has crossed a few times and he left for other places while I hunted him in the neighborhood of Kew and Richmond. It got the camera, however.

I spent a very enjoyable time with my relatives in Antwerp and Brussels. We hadn't seen one another for 8 years and you may understand we had lots of things to talk about. I

do not know how the Department will consider this vacation as I did not or rather could not apply for it, but taking notice of the fact that in all my travels in the Orient I never had any leave of absence and that my total leave of absence in this year only amounted to a little over ten days, I do not expect any troubles. For safety, however, I will give you a few dates. I left Kew Gardens Wednesday, September 1, 1909, at 7:00 A.M. went via London, Dover and Ostend and arrived in Antwerp at about 6 P.M. I stayed there till Monday morning, September 6, 11:00 A.M.; went to Brussels and left there Thursday, September 9, about 11:00 A.M. for Mons. I may say, however, that although my relatives were with me a good deal in Brussels, I spent the time officially in visiting the Botanic Gardens, the Park of Cambre and the beautiful grounds at Laeken and as such, September 2, 3 and 4 can really only be counted as spent on non-official business.

While writing about these matters it seems to me that in case you needed a resume of the time I spent now while abroad, it would not be a bad thing to give it here:

Friday, August 13. Left Washington, D. C. at 11:00 A.M. for New York. Attended to baggage and berth on S. S. while there.

Saturday, August 14. Left New York for Liverpool on R.M.S. Carmania at 10:00 A.M.

Sunday, August 22. Arrived in Liverpool at 8:00 A.M. Tended to customs house inspection of baggage, storage in

Cook's warehouses and transportation of same to hotel.

In afternoon visited an old English farm in the vicinity of Liverpool. Noticed the fine wheat, broad beans, peas and various vegetables and fruit trees. The farmer (Mr. Thos. H. Pate) told me he had harvested as much as 100 bushels of oats to the acre!

Monday, August 23. Very rainy and cold the whole day. Repacked baggage in forenoon and arranged for shipping it to St. Petersburg by steamer. In the afternoon visited the Liverpool Botanic Gardens. Noticed how a very fine strain of Celosia paniculata (obtained from Messrs. Cliberen, seed Merchants in Manchester, England) is used as a decorative pot plant in the greenhouses. Would be much appreciated as a bedding plant in the United States. I also noticed a very destructive caterpillar which defoliates the ivy very badly. Enclosed a leaf on which it has been working. The caterpillar is of a gray-brown color and looks exactly like a dead stick when at rest; it crawls in paces. Mr. Sherry, the foreman who showed me around, said that the smoke nuisance was getting worse every year in Liverpool and that a great many plants couldn't be grown any longer on that account.

Tuesday, August 24. Left Liverpool in forenoon, changed in London and arrived in Kew Gardens in evening. Had rain pretty near the whole day. All vegetation in England is

dark green and trees are not very tall, but densely branched. The absence of strong sunlight, together with the great amount of moisture in the atmosphere causes apparently these facts. The utilization of sewerage is very much farther advanced in England than in the United States. The sweepings and scrapings of the roads are also in great favor with the farmers as manures.

Wednesday, August 25. Went to the Botanic Gardens at Kew.

Studied in forenoon the genera Diospyros and Pistacia in the herbarium, went in the afternoon with Mr. L. H. Wilson, the Western Chinese explorer, through the Kew arboretum; noticed with special interest his introductions, like a new mulberry, very promising (Morus cathayensis), a new Faulownia with very large leaves (not yet named), Buddleia variabilis, var. magnifica, a very fine, semi-shrubby perennial for gardens. Berberis Wilsonae, a new low-growing berberis, can be used as a substitute for B. Thunbergii, although not of as excellent habits. When wandering through these magnificent Kew Gardens one cannot repress a feeling of sadness when realizing that there is not in the whole United States enough interest to create a similar garden there. And the stimulus such a garden would give to horticulture in general cannot very well be measured.

Thursday, August 26. In forenoon went up to London and attended to banking and mailing matters. In the afternoon went to Combe Wood, near Kingston, where the celebrated Veitch's Nurseries are situated. I met Mr. Wilson there, who again kindly showed me his very numerous introductions from China. Some of these western Chinese plants will be also of great use to American gardens, for instance Ampelopsis Henryana, a vine of medium dimensions, of rather light green foliage which is very variable. The veins of the leaflets are often silvery or bronze colored.

Ilex pernii, a nice small-leaved evergreen holly.

Eleuterococcus Henryi, a good shrub of medium dimensions. May not be entirely hardy.

Berberis verruculosa, a fine, promising, evergreen barberry fit for borders. May not be very hardy in the United States.

Populus lasiocarpa, a new poplar with very large, rather light-green leaves, while the principal veins and the petioles are of a deep, wine red color. I measured some leaves that were over one foot long and resembled strikingly the leaves of Polygonum sacchalinense. Mr. Wilson assured me that the trees grow often to 60 feet in height and occur in the more elevated regions and that the leaves remain large notwithstanding the age of the tree. If this tree behaves well under cultural condi-

tions, it may become a first class avenue and park tree. The Plants will be put on the market in a limited number this autumn and cost 10 sh. 6d. apiece.

Actinidia chinensis. This plant is perfectly hardy in England, but although having flowered profusely, it hasn't set fruit as yet. Mr. Wilson expects that within a few years they will fruit, for up to the present they have had only staminate plants in bloom, but they expect a few years from now to have the pistillate plants too from their numerous seedlings.

Berberis gagnepaini, a fine new evergreen berberis from Western China.

Sassafras sp. The Chinese sassafras which is much more robust than the American species, but it suffers in England, just like the preceding from the fact that the summer's heat is not sufficient to ripen its wood well and therefore it gets killed back every winter.

Ribes longiracemosa. Mr. Wilson said of this plant that the racemes are almost a foot long while the individual berries are more like good-sized grape berries than currants and of a black color. He also said that although the taste of the berries is not what it could be, the plant offers exceeding promises in hybridization work.

Then there were new evergreen ground cover plants for which American nurserymen clamor so much, viz.,

Pachysandra terminalis, very promising;

Sarcocacca hookeriana, very promising;

Sarcocacca rusciflora, not so good, too erect;

Cotoneaster humifusa, very good, crawling;

Cotoneaster congesta, from the Himalayas, very good, crawling;

Lonicera pileata, crawling, evergreen, blue berries.

Then there were new herbaceous plants like Rubus galore, Senecios, Artemisias, etc. Most of these do not seem promising enough to say much about.

These Combe Wode Nurseries are most excellently kept, in fact, they are the best nurseries in the world for high class material. And it is not only the richness and variety that appeal to one, but it is also the tremendous potentialities that lay latent there in the form of possibilities of hybridization and plant-breeding among all that material.

Friday, August 27. Forenoon correspondence attended to, in

afternoon shrubs and trees studied in New Gardens.

There are a few shrubs in New Gardens that deserve to be more widely known, viz., Berberis thunbergii var.

myrtifolia, a very small form of this well known bar-

berry, well fit as a border or edging plant. Fraxinus

dimorpha from North Africa, possibly a good stock for

tree lilacs in semi-arid regions. This shrub resembles

the new lilac with pinnate leaves from Western China



very much indeed.

I also noticed growing against the brick walls many plants that otherwise would perish if planted without that protection. Among them were Diospyros kaki; Umbellularia californica, Myrtus communis, Eriobatrya japonica and other well known plants that need heavy shelter in Washington, D. C. Mr. Wilson also drew my attention to the difference between Cydonia cathayensis and Cydonia sinensis, which two species have often been mixed up by botanists and others.

Saturday, August 28. Studied the whole day in the Kew herbarium.

Looked up the genera of Ulmus, Ficus, Populus, Lathyrus, and Medicago. Ficus arghanistanica which Mr. Swingle wants from Central Asia was absent and so was Lathyrus mulcack wanted by Professor Hansen. Medicago saseatilis from the Crimea was also absent. Of the four Medicagos wanted by Professor C. V. Piper, viz., M. papillosa, M. cancellata, M. rupestris and M. saseatilis, I may say that the first one only is promising looking, but M. rupestris is only a few inches high, a genuine alpine plant and M. cancellata is also very small and looks very delicate. I noticed, however, several other varieties and species of alfalfa that look very promising; viz., M. sativa var. sylvatica, found at Oued Zenati, province of Constantine, Algeria; it has yellow flowers and is of



a vigorous growth. L. sativa sub-sp. tunetana, at Bargou, Central Tunis, in calcareous hills. Apparently a very drought-resistant form. Yellow flowers.

Then, I saw specimens of Medicago falcata collected at many points, viz; in the Caucasus, Armenia, in Syria, near the Cedars of Lebanon, in Mongolia, in Siberia and in Central Asia. There was a good bit of variation among these various plants.

Among the poplars I noticed some beautiful species from Northern India which trees seem to me of promise to the southwestern United States, viz., Populus euphratica in many forms; P. Gamblei with very large leaves from Bhotan, India, at 4000 and more feet elevation; P. glauca from Bhotan, India, 7500 feet, large leaves, ornamental; P. ciliata from Maini-tal (Himalayas) and at Bumpa, 6000-11,000 feet, also in Kashmir and Central Asia. The trees of Northern India have as a rule not proven to be hardy in Western Europe, but that is for the same reason at that the ordinary magnolia grandiflora and Sassafras suffer, viz., the summer's heat is not intense enough to ripen their wood. Some of the Northern Indian trees offer great promise to the milder regions of the United States, but practically nothing has been done with them.

Well, Mr. young, this letter has again grown to a greater length than I intended it to be. The rest of my journey I will put

in another message. The items of new ground cover plants will be interesting to Mr. Henry Hicks of Westbury, Long Island, while Professor Piper no doubt will like to see the alfalfa part and Mr. Swingle about the poplars from India.

With kindest regards to you all, I am

Sincerely yours,

FRANK W. MEYER.

Paris, France,

September 12, 1909.

Dear Mr. Fairchild:

Just a short note to let you know I have arrived here in Paris. I struck the town on Friday night and was greeted by a blinding rain.

Yesterday I visited the Jardin des Plantes, studied in the Herbarium which, by the way, is by far not as accessible as the incomparable one at Kew. Paid also a visit to Vilmorin Andrieux & Co., 4 Quai de la Megisserie, but found to my sorrow that all the Vilmorins were away. Mr. Eugene Schaettel who knows you, too, and whose regards I have to give you, gave me some information as how to reach the Arboreta at Verrieres le Buisson and at Les Barres (Loiret) but I will come back to him on Monday and perhaps one of the Vilmorins will have arrived then.

I spent Thursday and part of Friday with Mr. Jean Houzeau de Lahaie at St. Symphorien lez Mons. By, what a specialist he is on bamboos! I never before in my life met one so well versed in them. The region he lives, however, is too cold for bamboos and last winter nearly all of his plants were frozen to the ground. It was rather sad to see all those tall dead canes of Phyllostachys mitis, Ph. pubescens, Ph. viridiglaucescens and others. I spoke long and seriously with him about his intentions for the future.

I informed him about the great difficulties of obtaining a subsidy from the Carnegie Institute for his work. I talked him about he perhaps being willing to accept an appointment with us and being given charge of bamboo culture in the United States with headquarters at Brooksville, to make there a successful bamboo station. He said at first he would be willing to do so, but the next morning after a family conference he stated he would rather not do it as his family and business ties were too strong at the present.

His ideals are to obtain a subsidy of between \$4000 and \$5000 per year for three years to study the bamboos in Japan for 1/2 year, in China for 1 year, in India for 1/2 year, in Central and South America for 1/2 year and the remaining time in North and South Africa. Then after that, he wants to study up the herbarium material in the various European herbaria and to write his observations in the form of a book. This study and writing he estimates will be close upon 7 years and while doing so his

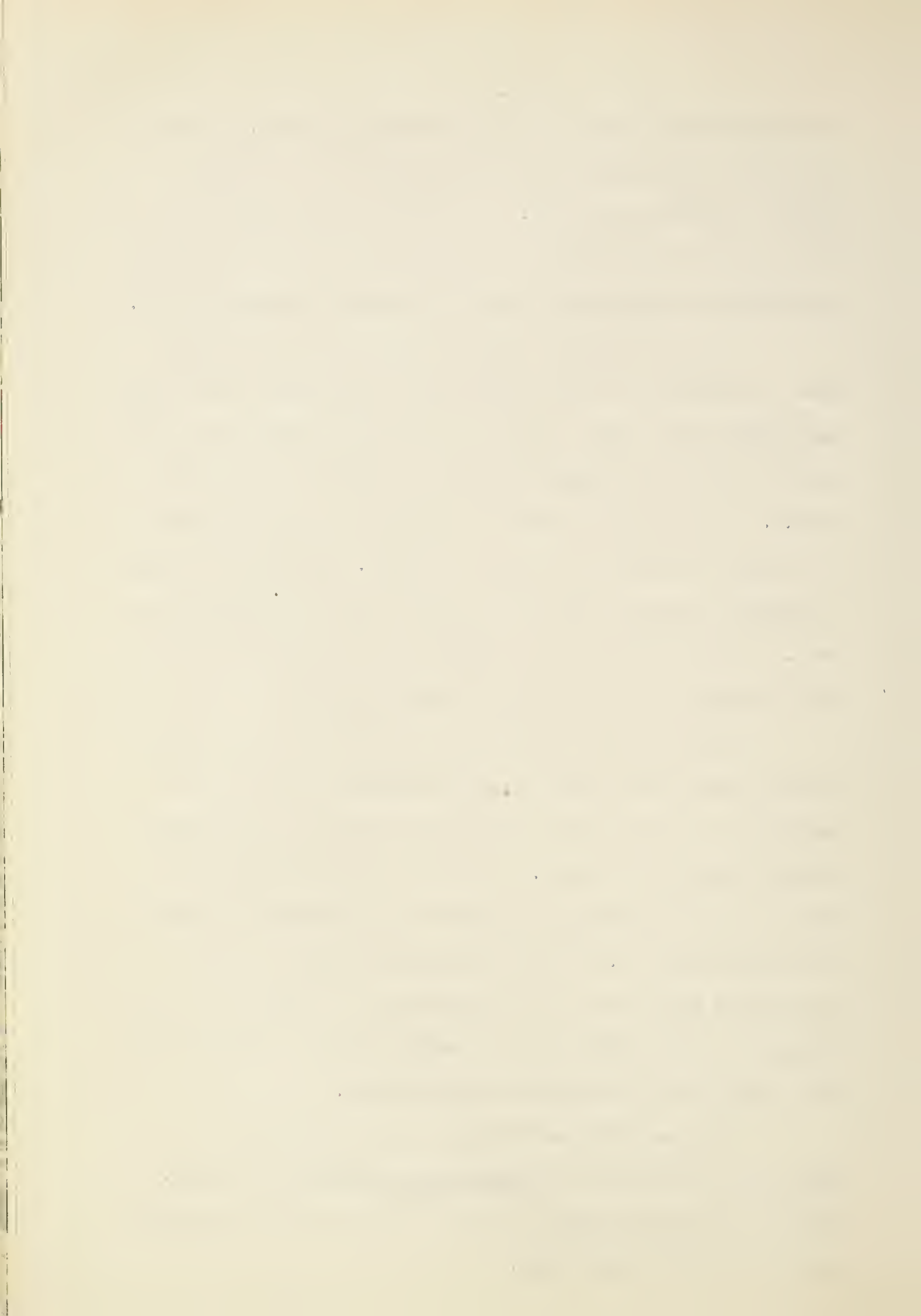


salary and expenses would not be over \$2000 per annum. As such the whole project will occupy 10 years and will cost between \$26,000 and \$29,000 all told. It would be a most useful piece of work if it could be done and would solve the now so immensely complicated and topsy-turvy state in which the bamboos are today.

Mr. Jean Houzeau de Lehaie himself is a very earnest man. I estimate his age at about 35, of medium build, brown eyes, dark brown hairs, with a tendency to baldness, wears a beard a la Van Dyke and is of economic tendencies (he wore a patch on his shoe!). His father is a banker in Mous and is very intelligent. He visited the United States some years ago. His mother is also a delightful old lady who speaks French, Dutch and English very well. I have a suspicion she translates some difficult points in the letters you or I have been sending her son.

Mr. de Lehaie stated to me that even in case no satisfactory negotiations could be effected between him and our Department, he will be only too pleased to help us in determining bamboos whenever we need it. To affect a good determination he states that it is essential to receive the culmsheets with twigs of various ages; viz., a few of this year's growth and some of last year's growth and the year before that. A piece of cane in addition is very helpful and if possible, flowers, of course, but this last item is most times an impossibility.

He has found that the Moso of the Japanese and the Mao tsoh of the Chinese is Phyllostachys pubescens and not Ph. mitis, as is mostly stated, for this last has smooth culm sheets while the first is very hairy.



776.

Now, in regard to this, I wish you would be so kind and change the name Ph. mitis underneath my photos for the coming bulletin into Ph. pubescens.

Well, when I left Mr. de Lehaie I only knew that I know nothing about bamboos but as Mr. de Lehaie informed me that the bamboos at Kew even are very much mixed up, I also knew I am not the only one.

But one thing I learned, that the next time I will collect herbarium material in China of these difficult plants and assist any way somewhat in their straightening out.

Well, this message is somewhat longer than I expected. I am also writing a condensed report to Mr. Young, but still in this letter I state a few things of importance which I won't state in that report.

Let me conclude with wishing you and Mrs. Fairchild a very pleasant voyage to America. Perhaps I will write you a short personal note yet, before that.

Tomorrow I expect to get some mail. I am living now in the Hotel de la Gare du Nord, 21-23 Rue de St. Quentin, Paris, where I will remain until September 15 inclusive. Goodbye, then.

Very sincerely yours,

FRANK W. MEYER.



Paris, France,

September 16, 1909.

Dear Mr. Young:

Thank you for your short note of September 4, 1909, and for the mail forwarded to me.

I will herewith send you some mail that better be answered in the office for it is hard job to do such work very well while on the go all the time.

Yesterday and the day before yesterday, September 14 and 15, I spent at the Arboretum of Mr. Ph. Le de Vilmorin at Verrieres le Buisson. It is quite a rich collection but, of course, it cannot be compared with Kew which is the Mecca for botanists. Tomorrow I hope to go to the other arboretum of Mr. Maurice L. de Vilmorin. It is several hours by train from here.

This morning I received a letter from Mr. Fairchild. He is in good health and hopes to reach Washington September 24 or 25. He will find a stack of mail I suppose, isn't it?

How is Mrs. Bell getting along? Quite recovered from her sick spell? The weather here in Paris is very pleasant; not cold and not warm, though the sky is much overcast. Still, I soon hope to leave France again. I wish I was already in the wilderness. This so-called civilized life doesn't yet appeal to me at all.

I received a personal letter from Mr. Alex. Kennedy at Tangsi, China, in which he informs me that he has sent ten pounds of Yang mae seed (Myrica nagi) to Mr. Fairchild. He

paid 30¢ per pound for the seed so it will be \$3.00. I suppose, however he will send in his bill. I only give you this information in case Miss Mary Austin should bother you for details.

These seeds are for stocks, better varieties to be grafted on them later on. But a goodly part of the seeds ought to be also sent down South to enable the people to see whether the plants are hardy with them. The plants are exceedingly hard to transplant, but they thrive wherever the Loquat thrives.

I will enclose herewith a list of all the mail I sent. you for further considerations.

1 card with attached letter for Mr. A. Zappone.

1 letter to be given to Mr. Estabrook.

1 letter from the Daily Illinois News Service.

1 letter from Mr. H. E. Landis.

1 letter from the Ohio Pulverizer Co.

1 letter from the "World Today."

1 card from Mr. Fred Gardiner.

Well, this is all for today. My best regards to you all in the office.

Sincerely yours,

FRANK H. MEYER.



Paris France,

September 16, 1909.

Dear Mr. and Mrs. Fairchild:

Let me wish you hereby "un tres bon voyage" and let us hope we may see one another again in the best of health a few years from now. I had a very profitable day at the Vil-morin's arboretum at Verrieres le Buisson yesterday. Today I hope to see L. Philippe de Vilmorin himself. Time flies away, though.

Well, I conclude with best of greetings and wishes.

Very sincerely yours,

FRANK N. MEYER.

Angers, France,

September 22, 1909.

Dear Mr. Fairchild:

Today is a rainy day and I am attending to my voluminous correspondence. The climate is very mild here and the town is old and interesting though very quiet. I have a good many nurseries to visit here while studying up this apple stock crown gall disease. Well, later on more. I remain

Yours very sincerely,

FRANK N. MEYER.



Angers, France,

September 26, 1909.

Dear Mr. Fairchild:

Today is one of those rare quiet days as you also experience in the autumn in America. The sun shines warm, but still one does not feel sticky or uncomfortable and I will make use of this weather in writing you a longer letter than I have been doing of late.

Well, this country, France, is also charming. Life is so different here from what it is in the United States. More repose, less hurry, more general contentment and a climate without extremes. Climate has much to do with temper and character, more perhaps than the world at large will admit. These last weeks I have been having conferences with various people, have visited Arboreta, nurseries, and gardens and know that we in the United States are sadly behind in an awful great many things in the horticultural line. Lots of plants, even unknown in America, are cultivated here in various places and some of such plants I introduced from China as being new to cultivation. Well, we without arboreta and only a slight public interest in such matters, do not know how much has been done already in introduction work.

In your last letter of farewell, September 15, I see a line that fills me with great pleasure, viz., that you are convinced of the necessity of having an Arboretum in Washington, D.C. I hope I may see a beginning made with it when I come back from



this trip. The educative value of a collection of live material is really of such an importance that I am almost stupefied to find that the people at large do not know that.

It would even be in the interest of nurserymen to have such arboreta in or near large cities where the specimens ought to be well labeled as to induce people to note names down and order plants that pleased them from their dealers.

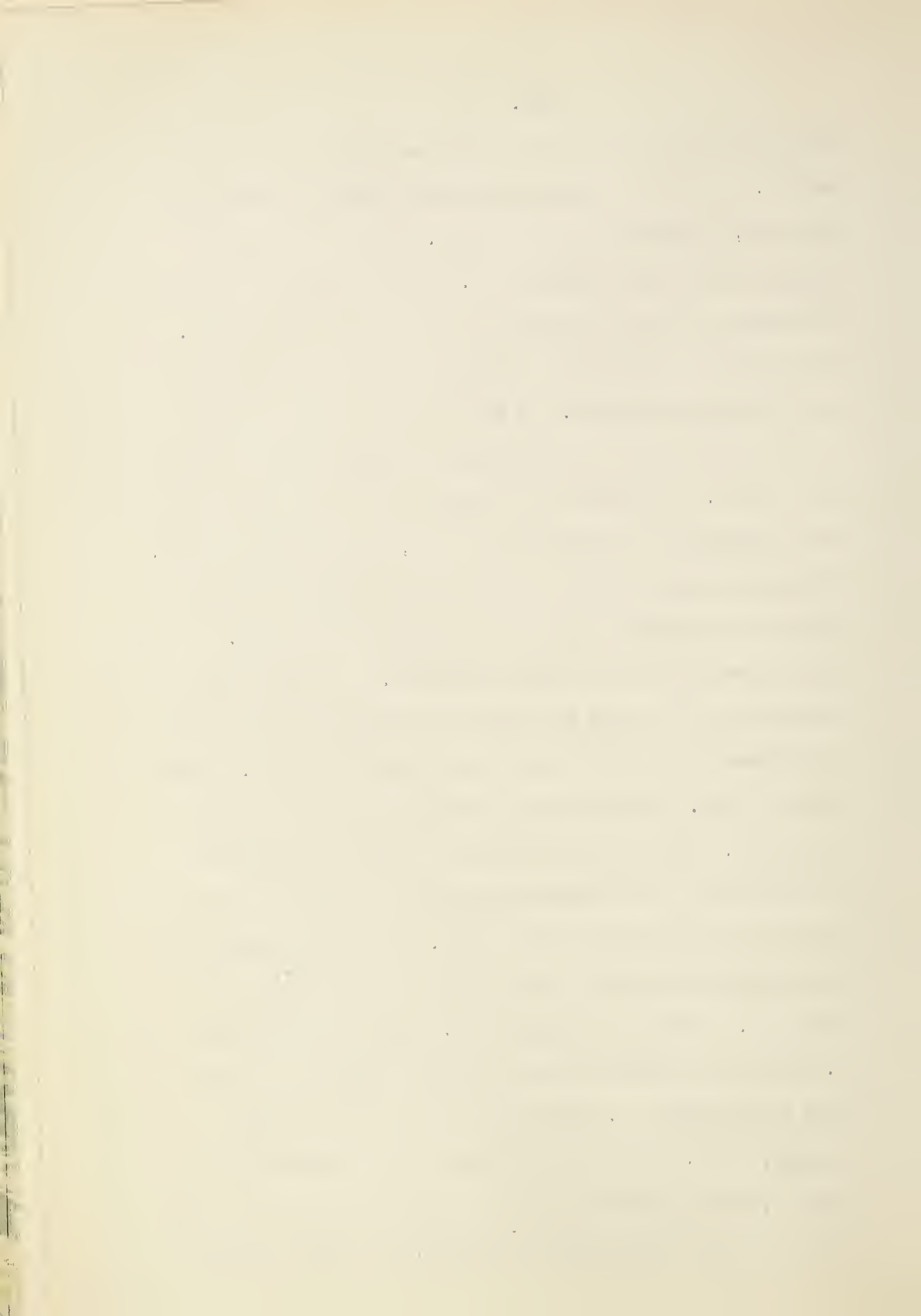
Thursday and Friday I spent with Mr. G. Allard, a very interesting old gentleman, in his arboretum here in the vicinity of Angers. He has hosts of things that may be of use to us in breeding work and for beautifying our parks and gardens. Hybrid walnuts, hybrid horse chestnuts, hybrid Torreyas, Hybrid oaks, etc. And wonderful to say, plants from Algeria grow side by side with those of California and New Zealand. The various Crataegi from North America are joined by their brethren of Syria, Southern Europe and the Orient. This climate here has some good features of our Pacific Coast mixed with those of Southern and Western Europe, Sequoiayagi gantea is seen everywhere. Prachycarpus excelsa from Central China is a feature of many gardens and live oaks from Southern Europe and North Africa add variety to the evergreen plants.

I am working on a more technical report to you in which I will give more details about interesting plants.

Some days ago I received the enclosed letter from Mr. Harry L. Gussmann, 451 - 1st Street, N.Y. You will see what he wants. Could you perhaps drop him a line and tell



him to come and see you so as to find out what material he is made of. He does not say anything about salary, so maybe he has means, although I do not think so. Then, I got a very strange letter from a person in St. Louis, Missouri, who claims he has been a railroad engineer in Central Asia for 14 years. He warns me to be extremely careful in that part of the world for the dangers are great. He advises me to keep my mission secret, as it may be to the advantage of certain parties to do away with me. He gives me a few localities in the Caucasus and Black Sea region where, according to him, the best grapes occur. A brother-in-law of his lives in a small village on the Black Sea near the Imperial vineyards which embrace 1000 acres. I really do not know how to take this letter. It is apparently serious, but I am afraid the writer had some very bad experiences in that part of the world and thinks it good to warn me. I will find out in St. Petersburg about certain things and then act accordingly. Then, my old interpreter, Chow Kai Ting writes me from Kashgar that he received my letter of April 17 from Washington and will buy and send seeds. He writes, however, a most peculiar English and I can't quite make out what he is driving at. Could you please see Dr. Bauer and hear whether Mr. Sowers has discharged him or whether he takes him through India to Calcutta? Dr. Bauer would write, as you probably remember, to Mr. Sowers that I could not be in Turkestan by August 1, as our intentions were this spring and that, as such, all our plans had been upset and that Mr. Ting would return to



Peking. He is, however, a valuable man and I am well willing to keep track of him, hence I cause you this trouble.

I heard the rather abrupt news of Mr. M. W. Tracy going to resign in a hurry and Mr. Fischer also leaving in a similar way. My, things move somewhat like earthquakes. I suppose you fell right into a volcano of work there in Washington, D. C. I haven't heard in a long time from Mr. Dorsett, but suppose he will clear matters a good deal there in Chico and in other places where needed.

I will tell you a rather novel method of transplanting rare deciduous plants which Mr. G. Allard practices here and with which method he claims he has not lost a single tree or shrub as yet. At the end or middle part of September or in early October he defoliates such trees or shrubs as he wants to transplant, then digs the intended specimens out, allowing a large ball of solid earth to remain around the roots, then plants the plants on their new places, filling the space around the root ball up with rich compost soil, waters heavily and gives a mulch of hay or straw which is left on during the winter. He moves even birches and live oaks that way, trees which are such difficult things to transplant. He acknowledged it is expensive, but he says, "I rather am sure of saving my rare plants than running the risks of losing them for the sake of some little money." I thought I might mention this method to you with the great amount of transplanting you have to do this year in your garden "In the Woods."

Well, Mr. Fairchild, let me conclude with best of greetings, also to Mrs. Fairchild, in though I really feel like being among you there under the tupip trees. Goodbye.

Very sincerely yours,

FRANK N. MEYER.

Angers, France,

September 26, 1909.

Dear Mr. Young:

The last time I wrote you about how I spent my days was somewhere in the beginning of this month, wasn't it? Well, I see now where I left off, viz., at August 28.

On Sunday, August 29, I spent the whole day in searching for Mr. Fairchild and visited in between the Botanical Museums in Kew Gardens, which are wonderfully rich and which we could safely copy in Washington where we have nothing of the kind.

Monday, August 30. Studied whole day in Kew Herbarium on the genera of Populus, Zizyphus and Tamarix.

Tuesday, August 31. Went to London, obtained camera, changed and obtained money, settled mail matters, etc. In afternoon visited the flower show in the Royal Horticultural Hall where Wilson, the Chinese explorer, exhibited a couple of hundred fine photos taken in Western China and Messrs. Veitch exhibited new Chinese plants.



Tuesday, September 1. Left Kew at 7 A.M., went by rail to Dover, then to Ostend, Belgium, and landed at 6 P.M. in Antwerp, Belgium.

Thursday, September 2. Correspondence attended to and visit of relatives.

Friday, Saturday, Sunday, September 3, 4, and 5. spent with relatives in Antwerp.

Monday, September 6. left for Brussels. Rainy weather.

Tuesday, September 7. Heavy rain. Visited a large park, Bois de la Cambre, noticed beautiful specimens of Araucaria imbricata and splendid beeches and oaks.

Wednesday, September 8. Visited the Botanic Gardens at Brussels and the large and rich park at Laken. Noticed the beautiful conifers from California, China and Japan in the last place.

Thursday, September 9. Left Brussels in forenoon for St. Symphorien lez Ions, where I met Mr. Jean Houzeau de Lehaie at his home, l'Hermitage, and saw his great collection of bamboos, many of them, however, had been badly injured by the frosts of the past severe winter.

Friday, September 10. Studied with Mr. de Lehaie his bamboo plants and his herbarium material. He is the best informed man on bamboos that I ever met and I consider him without a doubt the foremost specialist in the world on these difficult plants. Mr. de Lehaie will be too pleased only to assist us in straightening out our bamboos. For a successful determination he needs,

1st, culm sheets of various sizes, 2nd, twigs with foliage on them, of different ages, viz. of one, two and three years, 3rd, a piece of the stem, 4th, (If possible) flowers and seeds. A dried young shoot added to the above is often very helpful. In afternoon left Mons at 2:00 by train and arrived in Paris, France, at after 5 P.M. in a blinding rain.

Saturday, September 11. Saw some Paris, the Jardin des Plantes, studied whole afternoon there in herbarium on the genera Diospyros, visited Vilmorin, Andrieux & Company, famous seedsmen, at 4 Quai de la Megisserie, Paris, and obtained information.

Sunday, September 12. Visited museums.

Monday, September 13. Attended to correspondence and visited again Vilmorin, Andrieux & Co., studied their catalogues for information.

Tuesday, September 14. Left Paris at 7:00 A.M. for Mussy Verrieres with Mr. Eugene Schaettel, the representative of the Vilmorins. Stayed the whole day in the Arboretum of Mr. Philippe L. de Vilmorin, studying old and newly introduced Chinese and other plants. Was guided by Mr. S. Hottet, in charge of the collections. Noticed very many plants of interest, on which later a full report.

Wednesday, September 15. In early morning went again to Vilmorin, Andrieux & Co. and from there again to Mussy-Verrieres, where I met Mr. Philippe L. de Vilmorin who had arrived from England the night before. I gave him the letter

of introduction I had obtained from Mr. Wm. A. Taylor. Went again through his collections and looked up material in his museum and library. Mr. de Vilmorin has completed a book on the vegetables of the Japanese which will be published ere long! He stated, however, that in his opinion "Japanese vegetables have very little value for the European markets with the exception of the Udo which your Mr. Fairchild has so cleverly picked out and brought before the public."

Thursday, September 16. Correspondence and notes attended to.

Friday, September 17. Correspondence, Banking, exchange and mail matters attended to and part of baggage stored in Paris.

Saturday, September 18. Left Paris at 8:15 A.M. for Nogent sur Vernisson, met Mr. Maurice L. de Vilmorin at his country house, Les Barres. Saw his rich collection of trees and shrubs among which are some exceedingly interesting and valuable things. Several plants that are being advertised as new have been growing for many years at Les Barres. The new Davidia involucrata has been fruiting here for the last 3 or 4 years. Actinidia chinensis was growing here 5 years before Veitch introduced them into England. Mr. de Vilmorin obtains all of his plants through seeds sent by missionaries in China, especially in Western China and Eastern Thibet.

Sunday, September 19. Studied the whole day in Mr. de Vilmorin's arboretum. Saw also the rich Pinetum and the collection of oaks planted by the founder of the house of

Vilmorin in the early part of last century, now the property of the French Government and used as demonstrative material in their Forestry Station here in Nogent. The collection of live plants is so great here that one could easily spend a month instead of two days. Mr. H. L. de Vilmorin knows his plants very well indeed.

Monday, September 20, Bade goodbye with regrets.

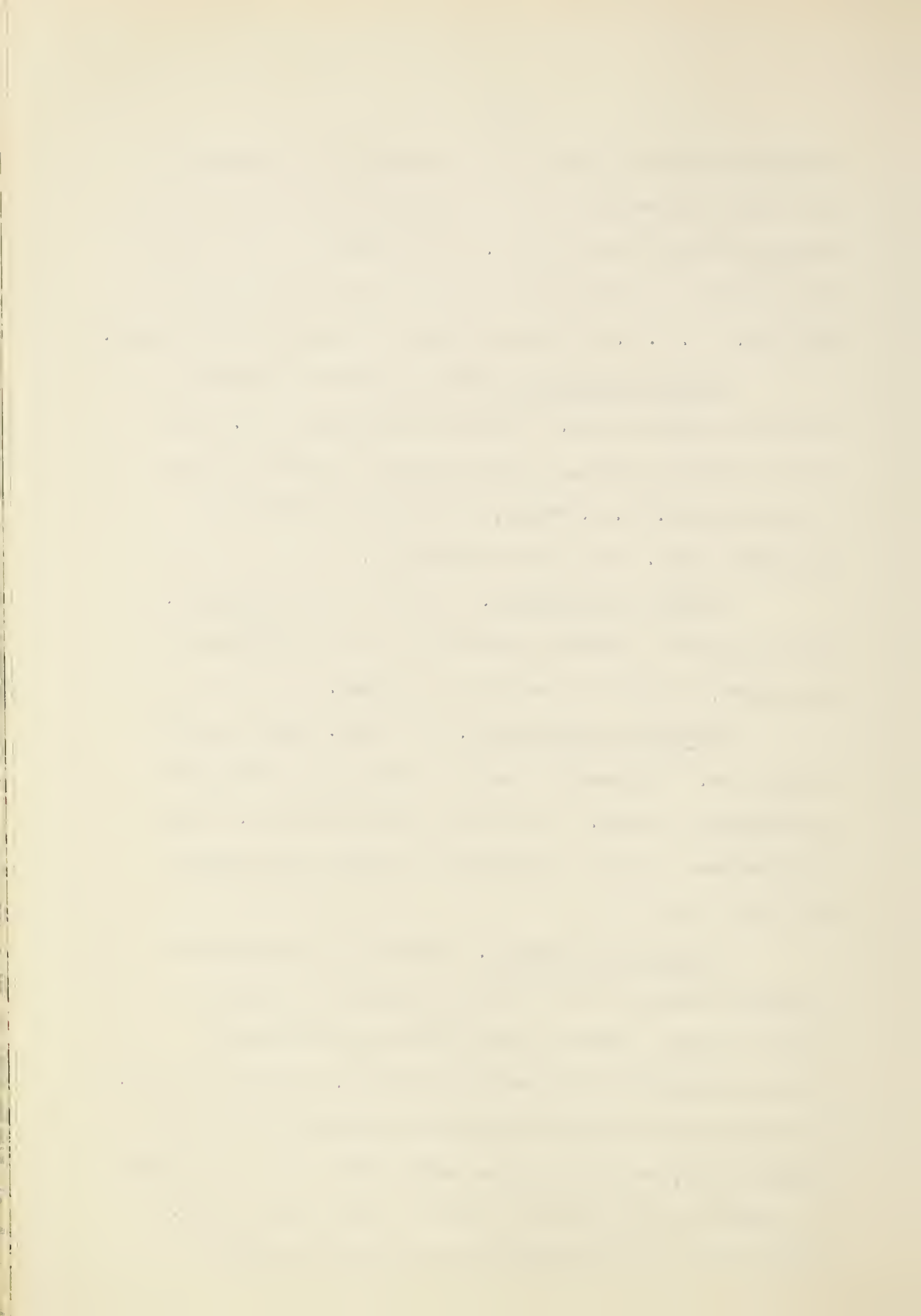
Arrived in Paris at noon. Visited the nurseries of Mr. Ferd. Jamin at Bourg la Reine, to whom I carried a letter of introduction from Mr. Wm. A. Taylor, investigated the crown gall upon apple stock. They have it apparently.

Tuesday, September 21. Attended to correspondence.

Went to Vilmorin, Andrieux' office and left in the afternoon for Angers, 5 1/2 hours from Paris by express.

Wednesday, September 22. In Angers. Correspondence attended to. Information obtained. Visited in afternoon the small Botanic gardens. The climate is very mild here. Camellias, Skimmia japonica, Trachycarpus excelsa, Thea, Loquats, all grow in the open.

Thursday, September 23. Visited in the morning the extensive nurseries of Mr. Vincent Le Bricon at la Pyramide close to Angers. Saw his nursery stock and investigated crown gall matters on the dwarf apple stocks. Saw nothing of it. The soil is most excellent here for the propagation of small nursery stock, being of a coarse sandy nature, with still plenty of plant food in it while the water is close to the surface. Nearly all of the stock grown in this section of France is



exported to America. In the afternoon saw the nurseries of Mr. F. Delaunay and visited Mr. G. Allard who keeps a very rich collection of trees and shrubs situated on the Route des Ponts de Ce near Angers.

Friday, September 24. Spent the whole day in Mr. Allard's arboretum, being led around by Mr. Allard himself. Some very rare and valuable plant material is to be found here in this arboretum. Many hybrid trees of great promise. Had in afternoon a few hours' conference on the crown gall of stock with Messrs. G. Allard, F. Delaunay and E. T. Dickinson of Chatenay. Obtained little information. The nurserymen will not admit they have it, or they say it is natural and is perfectly harmless; vexatious problems these diseases are.

Saturday, September 25. Correspondence and notes attended to.

Well, that's all. As I always make a few observations between the strict official notes, I wish you would show Mr. Fairchild and Mr. Taylor these sheets.

Goodbye, best regards to you all.

Sincerely yours,

FRANK H. MEYER.

Angers, France,

September 29, 1909.

Dear Mr. Fairchild:

This morning I have forwarded to you by parcel post a small package of various things which I picked up while wandering about. I put on the various slips enclosed the parties I would like to see them given to and as such I trust Miss Austin won't have any trouble in dividing them.

Trusting it will arrive in good condition, I remain

Yours sincerely,

FRANK M. MEYER.

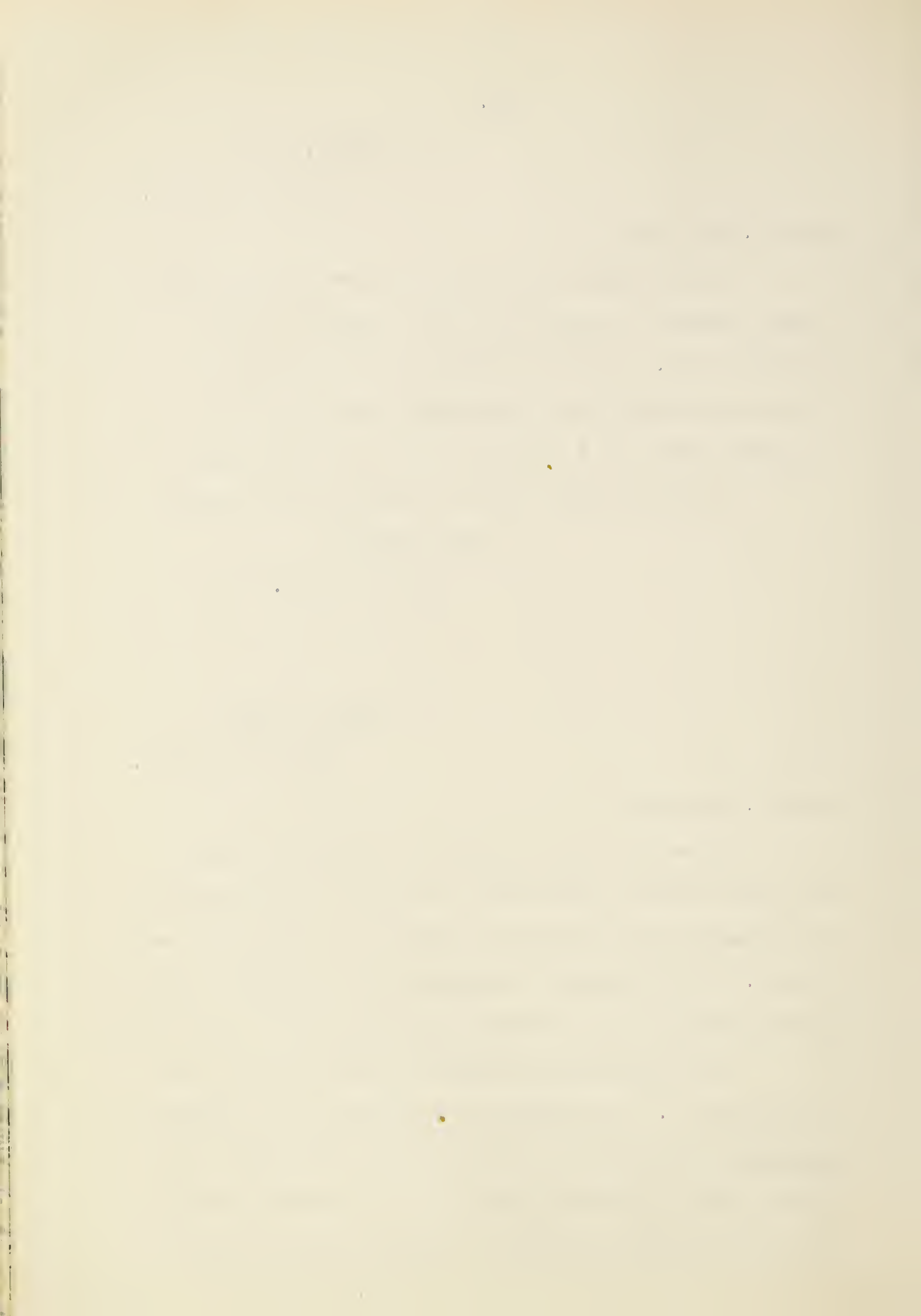
Angers, France,

September 29, 1909.

Dear Mr. Fairchild:

These last days I have had the intentions to write you a more technical report upon what I saw in various Arboreta and nurseries here in France, but every time something else came between. Now for instance, I feel out of sorts, having caught a cold by having been wet a couple of times while out in the country.

My observations upon what I saw have led me to these conclusions: I. It is absolutely essential to have permanent collections of especially arboreal material established in the various parts of the United States so as to afford the people the opportunities of studying the behavior of various plants



and selecting such material as suits climate and surroundings best. II. The U. S. Department of Agriculture should establish a seed-exchange office with headquarters at Washington, so as to offer seeds and plants in exchange with parties abroad.

Well, now, about a few interesting plants in the Arboretum of Mr. Philippe L. de Vilmorin at Verrieres le Buisson (R.R. Sta. Massy-Verrieres). A single specimen of a fastigate mulberry (Morus alba var. fastigiata) quite rare and may be of value in our Southern states as a pyramidal tree. Juglans vilmoriniana (J. regia X J. nigra) a very imposing tree of rapid growth, can be recommended as a stately park or avenue tree. Pinus armandii, a new, rather dwarfed pine from Western China, seedlings of Berberis stenophylla which is a hybrid between B. darwinii and B. empetrifolia. Well, the seedlings break up in all intermediate types and the whole plant serves as an excellent illustration, that even if the immediate result of a hybridization does not give what is wanted, the seedlings of such a plant may. I also noticed the very interesting graft hybrids of Malus germanica x Crataegus oxyacantha, there are many forms of them. Eucalyptus coccifera, but which is probably E. turnigera is hardy here and although not strikingly beautiful is interesting as being the only Eucalyptus hardy here in this climate. The evergreen Lonicera pileata, seen also in Veitch's nurseries at Combe Wood, Surrey, England, is a good plant for rockeries and at the ends of beds of shrubbery, it is of caespitose habit, like the Cotoneaster horizontalis. The last one is



also glorious at the Arboretum. Mr. de Vilmorin has also a very rich collection of alpines, like Saxifragas, Sedums, Gentianas, etc. He will be very pleased to receive such material from us. His foreman, Mr. S. Kottet, makes these alpines his hobby.

The Arboretum of Mr. Maurice L. de Vilmorin, Les Barres, Nogent sur Vernisson (Loiret) is very much richer in all shrubby material than the former. There are a great number of very rare plants, mostly sent in by missionaries from Western China. I noticed several Davidia involucrata, one had a great number of fruits on them, green and of the size of small walnuts. The new Berberis dictyophylla has white glaucous branches and leaves. Clematis Jouniana is an attractive plant for rockeries and between pieces of rocks, of caespitose habit and flowering profusely with white-lilac flowers which are much visited by bees. Clematis sp. 4927 has very nice rose colored flowers. Clematis sp. 4732 has white flowers and finely pinnated leaves, both plants are new and valuable from a horticultural point of view. Photinia variabilis (No. 4345) is an attractive shrub from Western China, it bears dark green glossy foliage and has small red berries. It may serve as a good stock for loquats being so very near to them. A new Prunus, No. 6613, from Western China is remarkable for its exceeding fast and healthy growth, it may serve also as a stock for plums and cherries in the United States. Mr. de Vilmorin has a few young plants available in case we can make use of them. The collection of roses is perhaps the richest in the world and

there is material galore here for breeding purposes. R. rugosa rosea glabra has especially healthy foliage while R. rugosa calocarpa bears beautiful large fruits. Rosa kamshatica looks like R. rugosa and being hardier yet, can be used in breeding experiments. Rosa sericea in two or three varieties from Western China may also be employed to create new strains of hardy roses. Among the Barberry collection there is a host of valuable material and so among the Euonymus collection and the Prunus collection. Well, really one could stay a couple of months in this arboretum taking notes and collecting seeds and specimens. The two days I stayed there were utterly insufficient. Mr. Maurice L. de Wilmorin will be very pleased to receive from us one or two plants of Fistacia sinensis, a plant of Rosa xanthina and the North Chinese round-headed willow.

Mr. G. Allard's arboretum on the Route des Ponts de Ce near Angers is also very rich in all sorts of shrubby and arboreal plants. I noticed a splendid specimen of Sequoia gigantea var. pendula, a very strange tree, perhaps the largest in existence. A hybrid Torreya (T. californica x T. nucifera) made by Mr. A and more vigorous than either of the parents. Hybrid oaks between many species, Hybrid Pavias, Hybrid walnuts (Juglans regia x nigra, J. regia x J. sieboldii). A very rich collection of various Pirus, among which a species of wild pear from France, P. cordata, which is not promising, however. Mr. Allard told me that Pirus nivalis has, in combination with P. communis, given rise to that strain of pears from which pear-cider is made in France. So that old

saying that "apples make cider, but pears make soap" has herewith to be done away with. There is also an excellent collection of various crataegus, not only those of Professor Sargent but also some large fruited forms of the Orient. Crataegus azarolles in a few varieties and also C. tanacetifolia, the last one has a flavor all of its own and could well be cultivated for its fruits which could be made into preserves. The lyrica californica is hardy here and I wonder why we couldn't use this plant as a stock for improved Chinese and Japanese varieties of lyrica nagi. Mr. Allard possesses also a very large collection of various hollies, some new ones from China are among them and look very promising. He also possesses a large plant of the very rare Hedera aurantiaca from the Himalayas, bearing golden berries. But as with the former, I could stay here weeks and weeks studying up things, but a day or two is just enough to review such a collection superficially. Mr. Allard is working upon a complete list of his collections, but it will take some time yet before it is published. We are, however, free to call upon him for material and what he especially would like to obtain from us are Histacia sinensis (this plant is exceedingly rare in Europe), Rosa xanthina, Lyrus ussuriensis, Juglans rupestris, Juglans californica and a few nuts of the tree form of Aesculus californica from as northernmost a locality as possible. Could somebody at Chico collect us the last three plants and pack them so that they won't perish?

Well, this letter is again rather big and I will conclude with best of regards to all in the office.

Sincerely yours,

FRANK M. MEYER.

Orleans, France,

October 6, 1909.

Dear Mr. Fairchild:

Today I am going to write you my final report upon what I saw and heard in connection with the investigation of the resistancy of various apple stocks against the crown-gall disease in the nursery districts of the neighborhood of Paris, the region around Angers and in the vicinity of Orleans.

Well, to begin with, the feature of this investigation trip has been rain, rain and rain again. How many time I have been wet I do not know but anyway a good many time. That this wet weather did not facilitate my work is a certainty and I did not see as many nurseries as I expected to cover.

Whether the crown-gall disease exists here in the nursery centers of France, I must say that I myself did not see any very bad cases of it, but only some slight ones. It exists, however, and is known to a few of the more intelligent and progressive nurserymen. The attitude assumed by the various nurserymen, when questioned closely about this disease, is as various as the human character. Some flatly say that they never saw it or heard of it. Others say yes, they have heard of it, but, they add quickly that they have not got it in their nurseries. A few admitted that they had it a few years ago and that they burned all the affected stock. Two admitted they had it, but the places where it occurred were far off and isolated and one said he would destroy the whole lot (they were ordinary wild apple seedlings.)



Nearly all of the nurserymen did not like to be questioned about it at all and a few unpleasant words were said about too much inspection and that the trade would suffer if still more restrictions were placed upon the export of plants, etc.

I found out that the people in general evaded the question whether they knew of this disease, so I had to employ another method, viz., I had a sample of paradise stock with me, slightly attacked, and asked them politely whether in their opinion doucin did not suffer more from it than paradise. They all bit at it and declared it was just the opposite, Paradise is always much more attacked than Doucin; after this the proceedings were easier for me, for they had admitted they knew of it.

In France the Paradise is used almost exclusively for the cordonnier form of apple trees, on account of its slow growth and dwarfing effects. The more responsible and intelligent nurserymen informed me it is never exported to the United States on account of not being suited to our climate. Doucin is used for the pyramidal form and espalier form of apple trees and is very much more vigorous and disease resistant than the Paradise. However, I was told that some foreign nurserymen call the Paradise "French Paradise" and the Doucin "English Paradise" and that in case they might have omitted the first names, some nurserymen might have sent the ordinary paradise which then turned out to be a failure. But all nurserymen agreed that Doucin was the stock best suited to the climate of the United States.



About the cause of the disease, many opinion were given. Some said it was like a wart, somewhat spreading but not dangerous. Another said it was caused by moist weather, when leaves accumulate around the stem. A third thought it was a mite or something similar. Another said it was the difference in vigor between the scion and the stock which caused abnormal growth to the stock. A few said that it was especially the soil that influenced it. On a clayey, cold soil one was much more apt to find it than in a light but rich soil. A few also said it was more common in some nurseries than in others; the neighborhood of Paris was considered (in Orleans) to be much worse than either in Orleans or in Angers. The same man who said the last also remarked that there are strains of Paradise and Doucin grown by different nurserymen and that apparently some strains are much more easily attacked than others.

Questioned as to what they did when they had this disease, a few said they burned all their plants and one nurseryman in Orleans admitted in the heat of a discussion, that his working men were given orders to exclude all stock for foreign shipment that even had slight affections. Hints were given to me in Orleans that some nurserymen in the neighborhood of Paris buy their stock indiscriminately from small, ignorant growers. I was informed in the same place that in Angers some parties were not afraid of mixing their stocks when short for big shipments. In how far these last charges are true, I do not know, but I know that the exporters from the neighborhood

of Paris apparently buy their stocks from smaller parties.

Of the many nurseries I saw I may say that I found Vincent le Breton at La Pyramide, near Angers, and Barbier & Co., here in Orleans, among the best. The last one had some exceedingly healthy stock of Paradise, Paradise Jaune de Metz and Doucin. They grow all their own stock and the foreman, Mr. Roussel, I found a man well posted and not being afraid to call this crown-gall a real bad disease, against which it was everyone's duty to watch. Mr. Roussel also said that the strain of Paradise they grow is singularly strong and he never saw any crown-gall on them. I also noticed that this stock was of a much darker color than the ones ordinarily seen.

One of the members of the firm Desfosse-Thuillier & Cie showed me several types of both Doucin and Paradise in his nursery; he marked them on page 65 of his catalogue, which I herewith forward under separate cover. It may be well, perhaps, to test these various strains in a suitable locality in the United States. Mr. Desfosse could not give me any information in regard to their resistance to crown-gall as he pretended not to know it.

In case some experiment should be made I recommend Barbier & Cie at Orleans and Vincent le Breton at La Pyramide (near Angers) for very healthy stock.

Desfosse-Thuillier at Orleans, Levavasseur at Orleans, George Benard at Orleans, Andre Leroy at Angers, Charles Detriche at Angers, Victor Detriche at Angers for ordinary stock among

which there may be some slightly affected material, also F. Delaunay at Angers.

Ferdinand Jamin at Bourg la Reine (Seine) and perhaps some other growers in the vicinity of Paris for badly affected material.

Well, this covers about what I had to say in regard to my observations here in France. The real work will have to be done in America where various botanical species of Malus will have to be tried in an affected district to test their resistance to this crown-gall.

As this report is of special interest to Mr. Wm. A. Taylor and Dr. Townsend, I wish you would kindly let them have it.

I remain, Sir,

Very sincerely yours,

FRANK H. MEYER.

Orleans, France,

October 6, 1909.

Mr. Wm. A. Taylor,

Through Mr. David Fairchild.

Dear Mr. Taylor:

Yesterday I arranged with Messrs. Leon Chenault & Co., nurserymen at Orleans, Route d'Olivet No. 79, to send to Mr. I. P. Roesa, our despatch agent at New York, one parcel containing 100 two year old Doucin apple trees and 100 one year

old Paradise apple trees, to be used by Dr. Townsend in his tests of resistance of various varieties of apples to crown-gall.

I am also notifying Mr. Roosa to forward this parcel of trees to you at his very earliest convenience. We are sending these trees via Belgium as the new laws concerning freed of insect and fungus pests on nursery stock, between America and France, have not been terminated yet, while Belgium and Holland have done so already.

I purchased those trees from Mr. Vincent le Breton at La Pyramide (near Angers) whose nursery is regularly inspected by a State Entomologist and whose plants I found very clean from any disease.

I left the roots on these plants so as to have a chance to have them inspected more closely at Washington, D. C. It is somewhat too early yet to ship scions as the plants are everywhere still in full leaves.

This whole problem of finding out here in France whether the nurserymen possess varieties of Doucin and of Paradise which are more resistant to crown-gall than others is a very difficult question. But one thing is sure: there are several strains of both grown by various parties and it will be a good thing to order a few hundred trees from a dozen or so nurserymen and have them planted on a suitable piece of land and test them for their resistant qualities.

In (or rather near) Angers I found that Mr. Vincent le Breton had especially very healthy stock, while here in Orleans

Barbier & Cie have the best stock that I saw here in this whole neighborhood.

I am writing a more extended report on my observations, but I may say this, that nearly all the nurserymen agree that Paradise stock is much more easily attacked by crown gall than Coucin or than the Paradise jaune de Letz, which last one is an intermediate form between Paradise and Doucin. The more intelligent and responsible nurserymen also say that they never export Paradise to the United States but they say that some foreign nurserymen are in the habit of calling the ordinary paradise "French Paradise" and the Doucin "English Paradise" and that there is a possibility that some have simply written "Paradise" and that the nurserymen who received such orders have perhaps sent the ordinary paradise, which proved then afterwards a failure. There are also apparently no fruiting trees of either Paradise or Doucin in the whole of France, as none of the many nurserymen and others I asked had ever seen one. Mr. C. A. Bunyard, however, of the nursery firm at Maidstone, Kent, England, told me that they had a few trees in their nurseries, but he has only seen a few fruits on them once in 6 or 7 years and that it is simply out of the question to obtain seeds of these varieties.

A member of the firm of Vilmorin-Andrieux et Cie gave in consideration to give the Siberian crab a good test as a stock for dwarf-apples and from what I have seen of this crab in Manchuria and Siberia I should think that it may answer for

this purpose.

Well, later on more.

With kindest regards, I remain, Sir,

Very sincerely,

FRANK H. MEYER.

Hamburg, Germany,

October 14, 1909.

Dear Mr. Fairchild:

On Monday, October 11, I took the Paris-Berlin express at 2:00 P.M. in Paris, and Tuesday, October 12, at 7:00 A.M. saw me land at the "Hauptbahnhof" in Hamburg. As soon as I was somewhat accustomed to the great change in climate, language and general habits here, I went to the Hamburg Botanical Gardens, where I found that the Director, Prof. Dr. E. Zacharias, would be absent for several days. In his place Dr. William Heering, who knows you too, having met you in Kiel, received me and showed me all around and took especial pains to assist me in the Azolla matter, for which I mainly came to Hamburg.

Well, I was told that all the Azolla plants that were sent to German East Africa were propagated here and then sent in charge of some interested person to their destinations. They

grew them for such shipments in flat earthen saucers, with very little water in them, and when a saucer was well filled, so that the whole mass was practically solid, they placed each saucer in a flat box, in moist sphagnum and had a glass cover on the box that could be opened so as to admit air and water. Azolla shipped that way arrives in excellent condition.

They are not absolutely certain what species this Azolla is, but to me it looks somewhat robust form of our ordinary Azolla caroliniana, and Dr. Hildebrand, the propagator in charge of this material, thought so too. In the Hamburg Botanical Gardens they could not tell me whether the plant is a success in exterminating the mosquitoes, which Professor Bartman, the Director of Fisheries in Wiesbaden, advertises it so much to be. As such, I went in the afternoon to the Institut für Schiffs-und Tropenkrankheiten" at the other end of Hamburg, and after some asking and waiting I was introduced to Prof. Ollwig, who was the very man who had charge of these mosquito extermination problems in the German Colonial possessions. This gentleman was, of course, a very busy man and I found him right in the midst of examining microscopical preparates, but we had a long talk about this Azolla and about Prof. Bartman in Wiesbaden and -the outcome is negative. Prof. Dr. Ollwig said that Herr Bartman had advertised this Azolla right and left, and that as a result thereof the Institut has been the unfortunate receiver of an enormous number of questions for more information, which they themselves did not have; but worse yet than this in-

discriminating advertising, Herr Bartman had written and said things that were absolutely untruthful and he had made it out as if the Institut had given him support in these matters, which was exceedingly annoying to those in charge of these mosquito problems. Prof. Ollwig stated at my special request what his private opinion was of this Azolla, that it may be of some use in special places, but that so far as present experiments went, (1) the plants will not grow in dense or even moderate shade; as such they are of no use in the tropical forests, where large and small pools of water are the very places where it is needed. (2) the plants do not stand any great cold or short seasons, for which reason they are excluded from the high elevated and from the northern regions. (3) they do not stand saltish or brackish water and cannot be utilized as such near the coasts; (4) in case of a drouth they all perish and it would be too much work to stock little pools or water expanses every time. Prof. Ollwig will be very glad, however, to hear from us what our success will be with it.

Although this Azolla then, after all, is not what it is claimed to be and perhaps to be assigned to the notorious "Wonderberry" section, I still thought we might give it a trial and for that reason Dr. Hildebrand packed and shipped, under my direction, one parcel of it to you and one to Dr. J. S. Smith, at New Brunswick.

As this letter is, of course, of special interest to Dr. Smith and to Dr. L. O. Howard, I wish you would kindly send

a copy of the most important parts of it to these two gentlemen. I also return that printed copy of Herr Bartman which Dr. J. B. Smith gave me, while we had a talk about this Azolla problem in your room some time in July.

In regard to the hardiness of this Azolla, I was assured by both Mr. C. Widmaier, the Inspector of the Hamburg Botanical Gardens, and Mr. Hildebrand, the propagator, that the plants have successfully over-wintered in the vicinity of Hamburg in some sheltered nooks, and that in Holland it has become a regular pest in some of the stagnant canals. Well, my own observations in Holland some 8 or 10 years ago were that especially in the vicinity of Haarlem and Leyden this plant covered whole canals. In spring and early summer it was nearly absent, but at the end of summer it looked here and there as if a green velvet carpet was covering the water and in the autumn this green turned into a vivid brown-red. It used to overgrow and exterminate the indigenous species of Lemna, like L. minor, L. major, L. trisulca, etc., and some bulb and truck farmers used to harvest it and after having it stacked up and allowing it to decompose, used it as a manure the following spring, especially for spinach beds and for cabbages.

I am,

Yours very sincerely,

FRANK N. MEYER.



Hamburg, Germany,

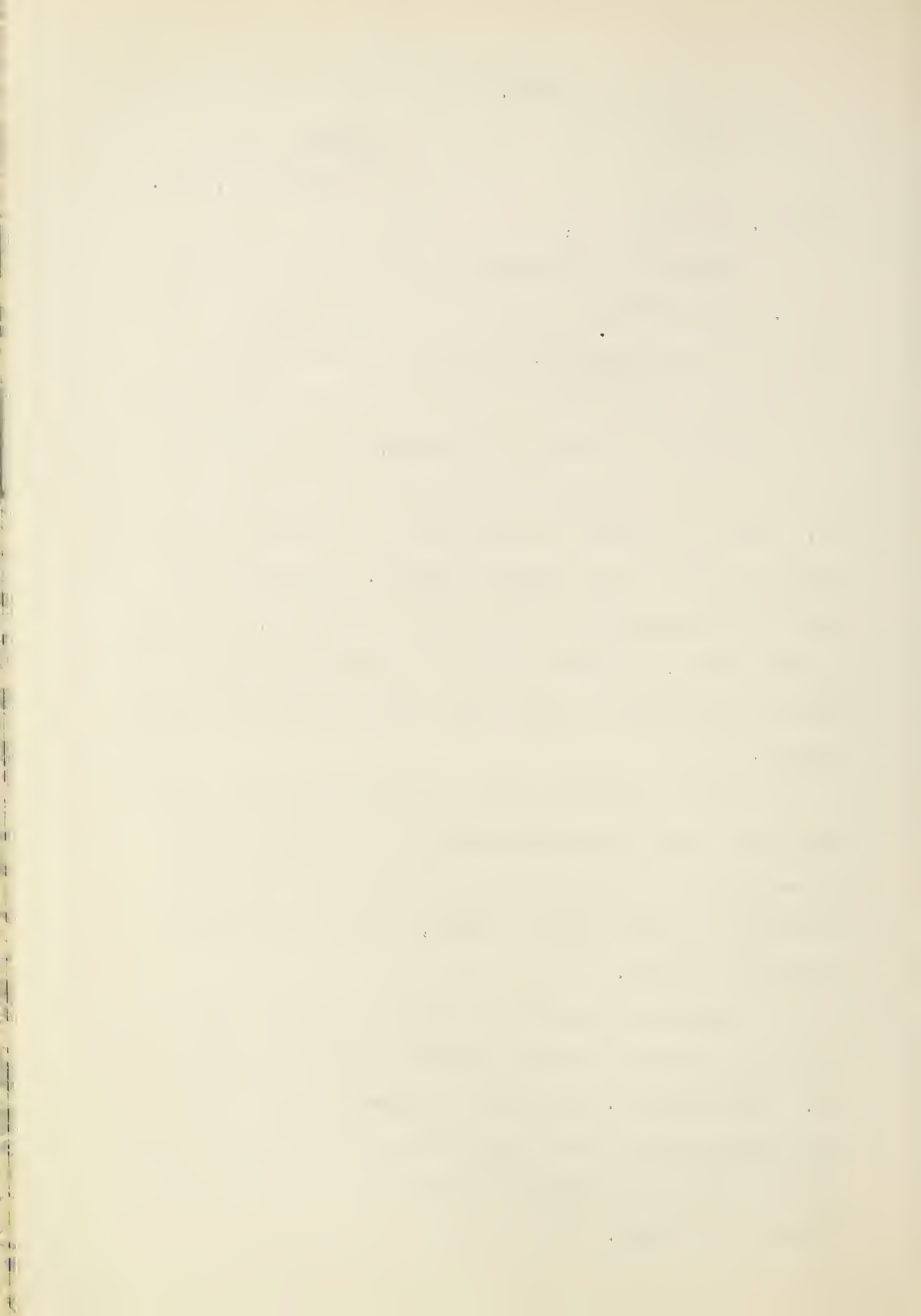
October 14, 1909.

Dear Mr. Fairchild:

Herewith I am forwarding to you through the kindness of Dr. William Heering, of the Hamburg Botanical Gardens, one parcel containing Azolla sp. (apparently a robust form of A. caroliniana). The best way to winter these little plants through is to place them in a flat earthen vessel, with some peaty or clayey soil in the bottom and only a small amount of water on it. Such a flat vessel to be placed in a cool place in a greenhouse and as near to the light as possible. As soon as spring sets in these plants may be put in many flat vessels, also with a little soil at the bottom, but now with more water (one or two inches), and be given a warmer place, in which way they multiply rapidly.

When the weather outside has become quite warm, these plants may be put in the places where the experiments have to be carried out. Care has to be taken, however, to harden the plants off for a few days in the open, before putting them out in marshes or ponds.

In case this shipment should fail for some reason or another, the Hamburg Botanical Garden is willing to duplicate it. I am sending Dr. J. B. Smith, Entomologist, State Experiment Station, New Brunswick, New Jersey, a similar parcel and a copy of this letter. In another letter I am giving you a full report on the matter.



807.

I remain

Yours respectfully,

FRANK H. MEYER.

Berlin, Germany,

November 1, 1909.

Dear Mr. Fairchild:

Herewith I am sending you four packages by sample post. Two of these packages contain only entomological specimens and I wish you would kindly turn them over to Dr. Howard. As the German laws prohibit the shipment of live woody plants from America, China and Japan into this country, it would be interesting if some scales or other insects shouldn't exist already here that they wanted to keep out.

One package contains only pathological material and may be given to Mrs. Tatterson, although there are a few pieces of crown gall disease in it in which Dr. Townsend takes so much interest.

The last package consists of a few samples of seed for the botanical seed collection, in charge of Mr. Skeels.

For facilities' sake I herewith give a list of contents of these four packages.

Entomological Specimens

- Scales on *Acer tegmentosum* (Count Schwerins place Thyrow)
- Scales on *Ribes mogollonicum* (Spath nurseries near Berlin)
- Scales on *Lilia parvifolia* (Dahlem Bot. Gardens near Berlin)
- Scales on *Pinus cembra* (Dahlem Bot. Gardens near Berlin)
- Scales on *Fraxinus excelsior* (Dahlem Bot. Gardens near Berlin)
- Scales on *Ampelopsis quinquefolia* (Dahlem Bot. Gardens near Berlin)
- Scales on *Ulmus scabra* (Dahlem Bot. Gardens near Berlin)
- Scales on *Salix* sp. (Dahlem Bot. Gardens near Berlin)
- Scales on *Populus angustifolia* (Dahlem Bot. Gardens near Berlin)
- Scales on *Nerium oleander* (Angers, France)
- Scales on *Pinus* sp. (Hesse Nurseries, Weener, Germany)
- Live lady beetles on Maple trees at Thyrow, Germany.
- Creeping insects on *Ulmus* trees at Dahlem Bot. Gardens, Berlin.

Pathological Specimens

- Crown gall on Paradise stock. (Nurseries of Gerd. Jamin at
Bourg la Reine, France.)
- Galls on an old Paradise apple tree in the Spath Nurseries near
Berlin.
- Diseased lilac leaves (Spath Nurseries near Berlin)
- Diseased leaf of *Prunus lanrocerasus*. (Brussels, Belgium).
- Fungus on leaves of *Norus alba*. (Nurseries of Vincent le Breton,
near Angers, France.)



Seeds for collection

Trapa natans - purchased on the street in Angers, France.

Almond x Peach - Barbiers Nurseries, Orleans, France.

Corylus colurna - Barbiers Nurseries, Orleans, France.

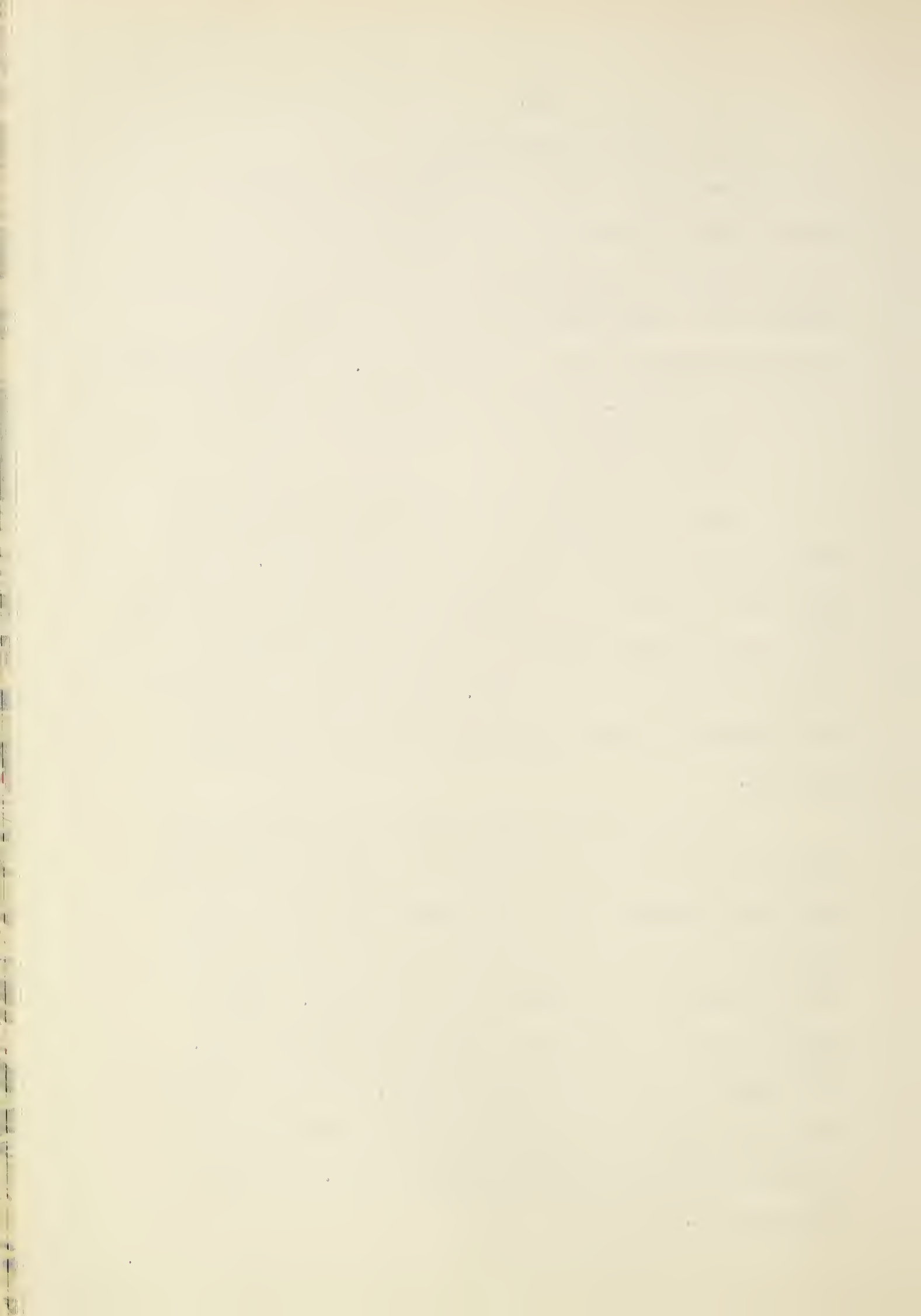
Amygdalis nana - Dahlem Botanical Gardens near Berlin.

Cone of *Sciadopytus verticillatus* - Hesse Nurseries, Weimar, Germany.

Prunus lauro-cerasus - Nurseries of Vincent Le Breton, near
Angers, France.

Well, I will first mail this letter for these sample post packages may travel faster than parcel post ones. I have been making a stack of notes on what I have seen these last weeks and I intend to write you some big reports these coming days. I obtained some of my mail from St. Petersburg, but there wasn't any reply from the Russian Government concerning our Central Asia work.

I had my old interpreter with me here in Berlin for a couple of days, the one who went with me through Eastern Siberia and Northern Manchuria, and he is willing to go again, but he would like to obtain my decision as soon as possible as he intends to engage again in another line of business. I do not know what to do as yet; maybe I will take him with me to St. Petersburg, as I need someone there anyway. He lives in Russian Poland, not far from the German frontier and I could meet him in Breslau and travel from there together to St. Petersburg and farther on.



810.

Trusting the above mentioned material reaches you in good shape, I remain

Yours very sincerely,

FRANK N. MEYER.

Berlin, Germany,

November 2, 1909.

Dear Mr. Fairchild:

Some days ago I received a letter from Dr. Albert Mann dated October 4, 1909, and containing two blank forms, relating to promotion matters. I have filled out (or rather filled in) the main points. The exact dates of how I spent my life are certainly not wanted and even if wanted, I do not recollect them all myself. In case, however, some more details are necessary please let me know and I will try to give them. I remain

Very sincerely yours,

FRANK N. MEYER.

Berlin, Germany,

November 2, 1909.

Frank N. Meyer

Agricultural Explorer

\$1600.00 per annum.

1. Education. An ordinary school education up to 14 years of age. After that much private tuition in Foreign languages, in Botany, Drawing (mechanical and landscape), Arithmetic and Measuring, Principles of plant propagation, etc.
2. Experience. From 14th to 16th year as a pupil in the Botanic Gardens of Amsterdam, from 16th to 23rd year as an gardener and assistant to Prof. Hugo de Vries in his special experimental garden. From 23rd to 25th year as a gardener in commercial nurseries in England, especially having learned the culture of fruits and vegetables under glass and the culture of fruit trees against walls and fences as is practiced in the countries of Northern Europe.
3. Departmental Service. From October 23, 1901 to August 31, 1902, as a gardener in the Department greenhouses at Washington, D. C. Resigned September 1, 1902. September 15, 1902, re-entered Departmental service again in the Plant Improvement Garden at Santa Ana, California. Worked there as a propagator and all-

around gardener. Resigned on account of very unsatisfactory conditions at the garden and improper treatment by Mr. P. Pierce, in charge, on April 1, 1903. Worked as head gardener in a carnation and palm nursery in Montecito, California, from April 1903 until March 15, 1904. Made journeys of study in California, Mexico, and Cuba from March 16, 1904, until August 1, 1904. Worked in the St. Louis Botanical Gardens from August 1, 1904 until July 1, 1905, as a propagator of mainly herbaceous plants. Was also member of the Jury on Forestry at the World's Fair in St. Louis during September 1904. Re-entered Department service for the third time on July 10, 1905, as an agricultural explorer. Left Washington, D. C. on July 27, 1905, and returned to the same city July 7, 1908, having visited in these three years parts of Japan, Korea, Eastern and Northern China, Manchuria and Eastern Siberia and collected nearly 2000 numbers of various plants and seeds.

4. Results accomplished. Valuable varieties of Chinese fruits, vegetables, cover crops and ornamental plants introduced. From February 1909 until July 1909 having written his observations on Chinese agri- and horticulture in a series of four bulletins which are in course of publication.

5. Special qualifications. These questions can hardly be answered by the undersigned himself.
6. Publications. Aside from some contributions to some newspapers and magazines for which never received any remuneration, the undersigned has not written much as yet besides the bulletins mentioned above.
7. Classification. To be answered by those in charge.
8. Value. To be answered by those in charge.

FRANK N. MEYER.

Berlin, Germany,

November 2, 1909.

Dear Mr. Fairchild:

Two letters I received from you which were sent up to me from St. Petersburg. In the one from October 1, 1909, I see your notes how Messrs. Tracy and Fischer have resigned. I, too, hope that the climate there in humid Para will suit Mr. Fischer, for if not--what then?-- What a pity the Panama Canal Commission feels obliged to leave agricultural development over to private interests. If possible, cannot our Bureau take this line of work over? When South Texas possesses a demonstration garden, Panama, which is going to be so far more important surely ought to have one. Whether Mr. Schultz will like it in Chico is a doubtful thing. Chico is far from tropical

and if Mr. Schultz went to South Florida because he liked the tropics, then he certainly will not find Chico to his likings.

About the insertion of Chinese characters in the text of my bulletins, yes, if it can be done, all right, but--how long a time will pass before all these affairs will be arranged? Yes, I know that the spelling is not uniform in my Chinese book. Firstly, the dialect question has entered into it and, secondly, different interpreters had different methods of putting down Chinese sounds in English letters, but one has this trouble all over China. It will give Mr. Swingle some labor if he is going to regulate these matters, but of course, it really is a good thing and if he accomplishes it, my best thanks are due to him. Please tell him so.

I am very pleased to hear the Chinese cabbages are turning out so well; I am really sorry I cannot taste them. I suppose Mori enjoys them hugely, doesn't he?

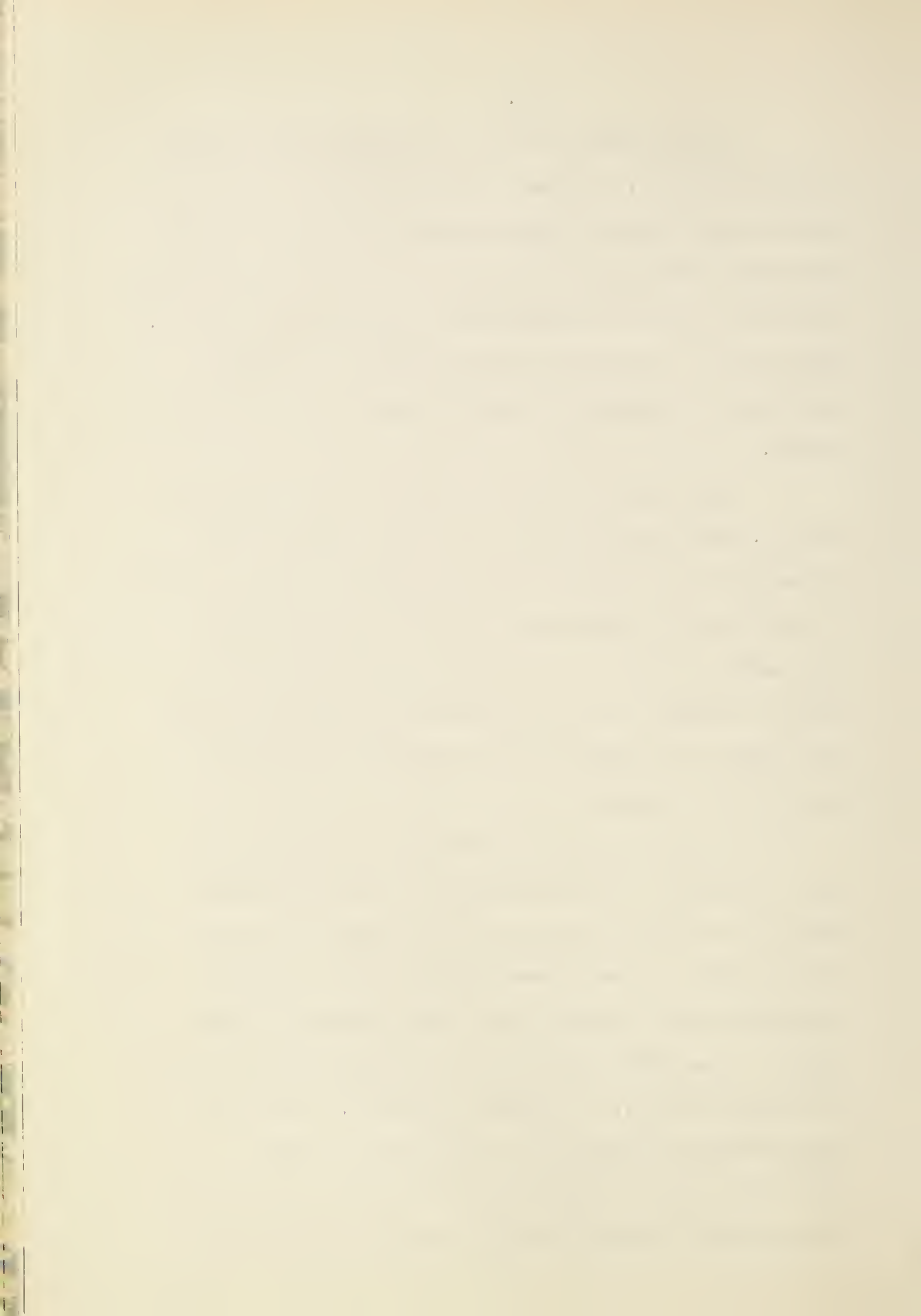
About this new seedless grape, "Black Bonukka". Yes, I too saw them in England and could not obtain much information as to their origin, but I expect them to come from Turkestan or the Caucasus. Mr. Maurice de Vilmorin told me, by the way, that the grapes from these regions are of no use in Central France, as they do not set or ripen; probably on account of insufficient heat and of too much atmospheric moisture. He could not tell me whether they behaved better in Algeria, but I suppose they do.



I haven't heard as yet of any Russian apple stock and am making inquiries. In Siberia they use the true Siberian crab as stock, but it does not dwarf as much as Paradise or Doucin. You received probably my full report about the crown gall disease, didn't you, and did the Azolla arrive in good shape? I hope Mr. Young will make use of these post cards that were gotten up especially for announcing me whether letters or packages had arrived.

Your letter of October 6, 1909. I am glad you will write Mr. Jean Houzeau de Lehaie and keep in touch with him. He really is one of the few experts in the world on bamboos and if some kind of an employment is not available for him, we ought almost to have him make a full report of the bamboo industry in Algeria; for, the experiences of the French there in North Africa can be applied almost immediately to California and to parts of Arizona.

I just got a long and interesting personal letter from Mr. de Lehaie. He writes me that he is sorry there is only such a very short article about the bamboos in our yearbook for 1908. He says he would like to compose a long and instructive piece of writing in our next yearbook. He also suggests to plant our bamboos there in Brooksville earlier than we intend to do, viz., in November or December. Whether that would be better than February or early March is a thing I myself doubt, but, if possible, some experiment ought to be made to settle this very difficult question of transplanting.



In Peking the Chinese say, "Transplant in the hottest month of the year," in Central China one hears, "In early fall is the best time," and in Japan it seems that early spring is preferred. I myself would prefer the time that the new growth begins to appear, but of course, in our case where the plants have to be transported for such a long distance and where the summer's heat and drought grows so strong all of a sudden as in Florida, we better have our plants established when the new growth appears. Mr. De Lehaie also draws our attention to the danger of having plots of bamboos with running rhizomes planted too closely together and where one species then often annihilates the other or mixes up so badly that study is impossible. That is a fact, as you also probably have seen on your travels and I strongly recommend to keep the plots of those large running kinds at a distance of at least 100 feet, if possible. You know those rhizomes often push 10 feet ahead per year. In Peking the common Phyllostachys henonis moves 3 feet per year and that is only the small variety and growing in an unfavorable climate. It may come to pass that our whole 20 acres there in Brooksville will be quite insufficient to harbor all the various species we may bring in.

I also received a letter from Mr. Stairs of the Agricultural College at Guelph, Ontario, which I enclose herewith and which I wish to see filed or turned over to the public printer or whosoever takes notice of such requests. I wrote Mr. Stairs already that I would have notice taken of his request; so further action is



not necessary. I find that my correspondence, official as well as personal, which had begun to slacken so nicely while in America, begins to grow again considerably for several persons in Europe whom I met on these last voyages have entered into correspondence with me.

Yesterday I spent the whole day in the Herbarium of the Berlin Botanical Gardens, but it is strictly systematically arranged and some genera also according to monographs and besides that, they are overhauling whole families, so it is far from easy to find things. Kew remains still the very best of all European and American gardens for richness of material and for facilities of study.

Well, in another letter more about my observations these last times. I remain,

Very sincerely yours,

FRANK N. MEYER.

Berlin, Germany,

November 3, 1909.

Dear Mr. Fairchild:

In former letters and cards I spoke of having visited the Hesse Nurseries at Seener, Hanover, Germany. Well, I herewith will write a few details about it. Mr. Herman A. Hesse started on

a very small scale about 30 years ago there in the northwest corner of Germany close to the Dutch frontier and today his nurseries occupy over 130 Hectare and are still expanding. His soil is mostly sandy peat, an ideal soil for the propagation of small plants and the climate is cool and maritime, being close to the North Sea. Their specialty is conifers of all descriptions, but woody plants in general are also much propagated. Mr. Hesse makes it a practice to purchasing as many new plants as are being offered by other nurseries and I found on his place to my surprise most of the plants that Veitch has introduced through Wilson. There are also several rare species of Pinus sent in by Surpus from Mexico. Of Pinus bungeana they had a whole frame full, but--they were only seedlings and cost 35 marks per hundred! In maples they have some very rare species and varieties. Acer creticum, for instance, is a small evergreen maple, Acer mandshuricum assumes beautiful scarlet colors in fall and has trifoliate leaves. Amygdalus nana from Turkestan, although rare and ornamental, offers little of economic value. The hybrids between Forsythia suspensa and F. vividissima, especially Forsythia intermedia densiflora and Forsythia intermedia vitellina are strikingly handsome and well worth becoming better known. Populus alba nivea is a very white-leaved poplar, extremely cheery against dark backgrounds. Viburnum alni folium has often enormous leaves, which color deep bronze in autumn. This species seems to love a moist, peaty soil, as it doesn't do well on dry or sandy soils. In the maples there is also the rare Acer crassipes with

characteristic, rather thick leaves. The little-known Bronssonetia Kazinoki is also quite interesting. It doesn't seem to grow as tall or as rapidly as B. papyrifera. In Cornus I noticed the golden-leaved Cornus alba Spathii and the dark-violet colored leaved C. Hessii which came from seed that was sent in from Siberia. Then I saw how Cotoneaster grafted on Sorbus aucuparia grew almost faster than on their own roots. They even had grafted them on stems 8 feet tall and they could well be used in gardens of small dimensions. Exochorda Giraldi is a new species from Western China, said to be better than the ordinary kinds of pearl-bushes, Magnolia salicifolia, from Japan, is also very little known as yet. Malus nietzwetzkyana is sold here as an ornamental flowering apple. I also saw how rare willows are grafted on Salix alba and perhaps also on other species and rare species of Sorbus all go on Sorbus aucuparia. These modern nursery-men graft or bud the majority of their plants nowadays. Tilia mongolica with leaves like a Vitis is also interesting and may be extremely hardy. There were also nearly all the ordinary well-known shrubs and trees but it is no use writing about them. I requested Mr. Hesse to send you a catalogue and trust it will reach you soon. The one object against visiting this interesting nursery is the fact that it is in such an out-of-the-way corner; to illustrate this I may say that I left Hamburg October 16 at 7 A.M. had to change cars and wait in Bremen and in Oldenburg and arrived at Weener at 1 P.M. and the next day I had the same thing, leaving Weener at 3:40 P.M. I had to change and wait again in Leer, Oldenburg and Bremen and

arrived in Hamburg at 11:30 P.M. They told me in summer there is a better service, however. The one great advantage, however, to Mr. Hesse is this: his working men do not readily leave him on account of expense of travel and as such he is assured of a steady supply at low prices, a thing nurseries near large cities are absolutely unable to obtain nowadays, as I was repeatedly assured these last months in various places.

I had many talks with Mr. Hesse and he will be very pleased to send us such things as we want, for things that we have to offer.

Now that I speak about Nurseries, I will also take the celebrated Spath Nurseries, Baumschulenweg near Berlin. I spent there two solid days, viz., October 27 and 28 and saw only part of it as it covers 325 Hectaren and is also still growing. It is much easier to reach than the Hesse Nurseries, but still it takes about a solid hour from the heart of Berlin to its gates, by railroad and by electric cars. These Spath Nurseries are a very large establishment, with several hundred people daily at work and in asking for Mr. Spath and stating my mission, I was directed to the dendrologist, Mr. Hugo Jensen, whom I found extremely well informed and of very pleasant ways. I found these nurseries not as rich in conifers as those of Mr. Hesse and the soil is nearly entirely pure sand, but there was a small arborctum which contained a number of interesting shrubs and trees. Both nurseries haven't put all their plants in their catalogues, but it seemed to me that

Mr. Hesse in general had more real novelties in trees and shrubs, but that the Spath Nurseries possess the greatest variety of deciduous trees and shrubs. I saw some interesting hybrids between Malus prunifolia pendula and M. floribunda, also between M. nietz-wetzkyana and M. floribunda, the ideal being to obtain more weeping forms of various large flowering ornamental apples. According to what I saw, they are fairly well on the road to see their ideals realized and if this goes well with apples, why shouldn't flowering cherries be crossed also to obtain still better types. You receive the Spath catalogue, isn't it, so I hardly need to tell you what they possess here, but there are a few things well worth a special mentioning, viz., edible mountain-ash berries, Sorbus aucuparia moravica, So auc. rossica and S. auc. ross. major, vide Pages 49 and 50 of Spath 1909-10 catalogue. These varieties deserve, in my opinion, a very good trial in such of our Northern States where these mountain ashes thrive, they may form an appreciated addition to the home fruits. The plum-apricot (Prunus dasycarpa Ehrh) is also something of interest. Mr. Jensen, told me it was a fine fruit to eat. (Page 50). Then in roses I was informed that the European nurserymen are still looking for a climbing rose with bright yellow flowers. Well, let them experiment with this double yellow Rosa seanthina of which Mr. Oliver possesses perhaps the only specimen outside of China. In maples I noticed Acer pennsylvanicum erythrocladum with beautiful carmen-red twigs, especially attractive in winter time. Alnus rhombifolia and Alnus Spaethii

are two very attractive alders, well worth being planted in parks. Betula medwedjervi, a new specie of birch from the Caucasus, with leaves more like an alder than a birch. Forsythia intermedia spectabilis again a new form of these golden bell bushes. Morus alba aurea, a rare golden mulberry, not only having golden leaves, but also yellow twigs, making it an attractive shrub even in winter. Photinia villosa laevis, a rare rosaceous shrub, loaded in fall with scarlet berries and having then colored foliage too, which persists for a long time into winter. Many species and forms of both Pirus and Malus, some perhaps of great value as stocks in various regions. Prunus lauro cerasus schipkaensis and Pr. lauroc. schipk. Zabeliana, both not as handsome as the ordinary kind, but, extremely hardy, especially the last, which may do well even in our northern states and be an appreciated low evergreen shrub. Many species of Ribes for breeding purposes. Robinia Holdtii Britzensis, a hybrid Robinia, extremely floriferous and keeping its foliage a long time, a very good tree for small gardens as a single specimen. Salix alba vitellina pendula, a very good weeping willow, growing to perfection in the vicinity of Berlin on very poor soil, but loving to be near the water, may be fit for our northern states, as it is said to be much hardier than Salix babylonica. Many species and varieties of Sorbus, like S. pohuashanensis, S. pekinensis, S. thianshanica, all rather recently introduced and resembling in the young state at least, one another very much. Ulmus campestris unbraculifera, the round-headed elm from Central Asia, may be fit as a shade tree in our semi-

arid states. I also saw some new species of Berberis introduced from Turkestan, a new Tilia from the same region and some minor things. Eleagnus hortensis, apricots and peaches from the same regions had failed to ripen fruits as yet. Mr. Jensen told me that they had sent him stones of a peach said to grow as large as a child's head, also occurring in Central Asia. He showed me a tree that had come up from a seed of this variety, but one could clearly see the Berlin climate was too cold for it. I showed Mr. Jensen some of the photos I took in China and when he saw those round-headed willows and pyramidal poplars he asked whether they could not obtain some from us in exchange for material they have. He suggested that our office make up a list of material for exchange and they will do the same, of their rare things. Only, and that is a bad only, Germany does not admit woody plants to be introduced from the United States, China or Japan, so seeds are always the best, but when cuttings are sent by sample post and not by parcel post, then they generally arrive in good shape, as the postal authorities do not have the time to inspect every sample package. This information is, of course, confidential. This whole entomological inspection business is very strange to comprehend. England, France and perhaps Belgium, too, allow Oriental plants to be introduced from their countries of origin and Germany allows again English and French plants to be introduced into her territory, so how are they going to keep the insects out?

Last Sunday, October 31, 1909, Mr. Jensen showed me around through some of the villa parks and suburbs of Berlin and

pointed out some of the plantings made by the Spath nurseries. I saw to my surprise that several of the American oaks like Quercus rubra, Q. polustris, Q. tinctoria and hybrids between them make excellent street trees here on this sandy soil of Prussia. American lindens, catalpa syringaefolia, Taxodium distichum, Prunus virginiana and many American hawthorns were to be noticed in several places and all doing well. Berlin certainly takes care of its streets and its parks and even small house owners develop an originality in beautifying their grounds that is as remarkable as it is praise-worthy. The world at large can learn still much here in this land, where the people are just now living in a second renaissance!

Last Friday, October 29, I visited Count Schwerin, at Hyrow, Prussia, who is President of the Deutsche Dendrologischen Gesellschaft and who is a specialist on maples and elders. I had been recommended by a few people to see his place, but--it is not worth the trouble. The arboretum which this gentleman is establishing is quite new, trees are not labeled and not well arranged and although one can see a few very large Populus alba and some other things, it is not worth a special trip for a man like myself. Count Schwerin asked me to remember him especially in case I find any maples on my journeys, so you know herewith where we can send them to, in case we have some to spare. I noticed, however, one very remarkable item on his place, viz., hot beds made from boards of reenforced concrete cement and such frames can be taken to

pieces and removed if wanted. The head gardener told me they were better than either brick or wood, the first admits the cold too much and the last rots too quickly. These individual boards and coverpieces are quite heavy, however, but a large nursery could make them themselves in times of scarcity of field work; the address of the German concern which makes these frames is: Eisenwerke in Tangelhutte, Germany (Parkverwaltung), maybe they have a catalogue and we could obtain some ideas from them.

I also see in one of my notes that I have to write you fuller about Leon Chenault & Son, nurseryman, 70 Route d'Olivet, Orleans, France, whom I visited on October 4, 1909. They are both very intelligent, father and son, and the first especially knows a tremendous number of plants. They are such experts at propagating rare plants that whenever Mr. Maurice de Filmorin has anything he can't make much headway with, he turns it over to Messrs. Chenault. It was from them that I heard how the evergreen Californian cherry, Prunus illicifolia can be grafted onto the deciduous P. mahaleb and is then endlessly easier to transplant as when grown on its own roots.

I requested them to send you their catalogue and suppose you obtained it already. They were very eager to obtain plants from us which are rare or beautiful and I suppose our office has to make out a list of material available for exchange. Some Plants I noticed with the Chennaults that were



rare and attractive, like the new evergreen Lonicera pileata, the new Osmanthus delavayi, which I do not take to be hardy in America, north of Augusta, Georgia. Ailanthus glandulosa Giraldi and A. g. pendulifolia, both with enormous leaves. Clerodendron Bargesii with purplish leaves and not as badly smelling as Clerodendron Bun ceannu. Claditsia inermis elegantissima, a honey locust of peculiar growth and of use as a standard tree in formal gardens. Koelreuteria japonica, of a very compact growth and less straggling than K. paniculata. Loropetalum chinense, a very interesting shrub of which I also took a plant with me from China. Populus angulata cordata robusta, a most remarkable vigorous species. Sorbus cuspidata, a very striking species, may, however, not be quite hardy in the northeastern states as most Himalayan plants do not stand the climate of the East. Tamarix hispida aestivalis, an elegant small bush, extremely floriferous, good for bedding even in parks.

Among the asters I found some remarkable soft and beautiful nuances, like Beauty of Colwall (lavender), Feltham blue (dark blue), A. ibericus ultra marin, (very dark violet-blue), Adam Couchault (rose color), Mesa grande, (deep violet), Nova Angliae praecox and praecox rubra (both reddish striking), Perry's favorite (pink), President Kruger (silvery blue, very soft), Psyche (soft blue), Preciosa, (very dark blue), Salvia azurea grandiflora, a very fine variety of deep blue.

Well, Mr. Fairchild, this is a substantial message and I better reserve my report on the Botanical Gardens of



Hamburg and Berlin for another letter. I remain

Very sincerely yours,

FRANK W. MEYER.

Berlin, Germany,

November 3, 1909.

Dear Mr. Fairchild:

Herewith I am sending you 5 packages of printed matter. I. is a guide to Bretagne and adjoining territory and may be of use to our office some day. I wish you would give it a place among your other guide books. Package II is a little guide to Angers with maps and may also be of use in case another one goes again to that region of France. Package III is a little album of the Hamburg Botanical Gardens and Museum, showing what an attractive place it is. No. IV is a little publication from the Horticultural Society of Angers, France, but as there are some notes in it concerning diseases on Anemones, Oaks, Vitis, etc., it may be of interest to some pathologist in our Department. No. V contains a most ridiculous French horticultural paper in which creations a la Burbank are being shown. They are full of wit, though. There are also two guides in this package, one from Hagenbeck's Tier park near Hamburg and the other from the Zoological Garden here in Berlin. In case you

do not want them yourself I would like to see them given to Dr. Baker who may find some suggestions in them applicable to our Zoo in Washington.

Trusting these five parcels will reach you O.K., I remain, Sir,

Very sincerely yours,

FRANK N. MEYER.

Berlin, Germany,

November 4, 1909.

Dear Mr. Fairchild:

Herewith I am sending you by sample post a piece of paper as used by the firm of Barbier & Co., nurserymen at Orleans, France, as lining in boxes in which they ship deciduous trees and shrubs, for they have found out that deciduous material travels much better in nearly air-tight packages than in open ones, while conifers and evergreens are just the opposite, wanting a maximum of air and light while in transit.

This paper might perhaps be adopted by us in connection with our shipping business, that is, if it is to be had in America. I remain, Sir,

Very sincerely yours,

FRANK N. MEYER.

Berlin, Germany,

November 4, 1909.

Dear Mr. Fairchild:

Today I will write you some of my observations on the Botanical Gardens and Museum of Hamburg and on those of Berlin. Well, as I wrote you in connection with the Azolla investigation I arrived in Hamburg October 12 and spent that day and the next mainly in the Botanical Gardens and the Botanical Museum. In the gardens they have a good many very interesting plants, like many rare water plants, liver mosses and rare greenhouse plants. I saw, for instance, for the first time, a tank with Mangroves; seedlings of the remarkable Selaginella mirabilis; seedlings of all sorts of insectivorous plants, for instance, whole frames full of Darlingtonia californica, of Pinguicula muscipula, of Droseras, Sarracenias, Pinguiculas, and others; all admittedly hard to keep, not to say to raise from seeds. In one house they had several seedlings of Synedrella nodiflora from Java, also a rare plant in cultivation. As the garden is not large and can not be extended, they seem to make it a practice rather to have some rare things, than stuff that everyone possesses. Mr. C. Widmaier, the inspector, would be very pleased to obtain from us some Mitchella repens, with soil attached to the roots. As this plant grows in the vicinity of Washington, D. C., too, I do not suppose there will be much difficulty in forwarding him a sample or two. They also like to get seeds of rare

insectivorous plants like from our Sarracenias, Dionaea, etc. I suppose, however, that we ourselves cannot obtain such seeds very well, isn't it? Dr. Wilhelm Heering also gave me a list of live plants they have ready for exchange. I enclose it herewith, though it seems to me there isn't much in it that we, in our rather economic tendencies, are able to use. The Botanical Museum of Hamburg is extremely interesting and it is a sad thing that we have nothing of the kind in Washington. They have all sorts of tropical fruits there in alcohol, like breadfruit, jackfruit, Duria Gamboutans, litchees, etc. Some of these rare fruits I saw there for the first time in my life, like Theobroma bicolor, which you also saw somewhere in Brazil, wasn't it? Then there are all possible kinds of fibres, oils, varnishes, dyes, rubbers, among which some very rare ones. The tuber-rubber from Central Africa is Phaphionacme utilis, Stapf. which they tried to grow, but lost again. The museum is, of course, too small, like all museums nowadays, but still even it is extremely instructive and of enormous assistance in determining materials that are being sent in. When one tells these people here in Germany that we do not even have a Botanical museum in Washington in connection with our Department, they are all surprised and ask the reasons why.

This Botanical Institute made the impression upon me of being a small agricultural Department in itself. They have quite a staff of technical people; are making analysis of various things sent in; test seeds for germinating covers and

purity, etc. They also have a growing herbarium and have purchased quite recently the whole collection of dried plants and microscopical preparations from the widow of Sir George Fernald, the eminent expert on Indian woods and bamboos. In the garden I noticed a rather rare Colchicum, viz., C. byzanthinum, which is far more ornamental than the ordinary C. autumnale and is well worth being planted in our parks if it suits the American climate.

And now we come to the New Botanical Gardens at Dahlem near Berlin, where I have spent several days of late. Well, my private opinion is, that as a whole this garden is very interesting, but -- the Geographical arrangement is not altogether a success. It is an excellent thing to have in a very large botanical garden a geographical section, but--in a garden like here in Dahlem, which is far too small to accommodate all plants that are able to grow outdoors, there the geographical arrangement is somewhat detrimental to the purpose of it, viz., to facilitate study. Geographical arrangement also necessitates the having of many similar trees and plants that cannot very well be placed congenially together in rather limited areas. The ideal botanical garden should be treated in the main systematically, while suitable locations should have preference above a rigid system, however. Then trees, shrubs, herbaceous perennials and annuals should all be kept separate. From each species, several specimens should be kept, from different localities so as to show variability, adaptation,

etc. All specimens, however, in the systematical section should be the strictly botanical types such as found in the wild state. Next to these botanical collections, groups of plants have to be planted showing their horticultural value, like a section of weeping trees and shrubs of all forms, a section of golden leaved ones, of section of such as have a pyramidal or fastigiate habit, etc. Such sections would be of the greatest interest to nurserymen and proprietors of private places and others wanting instruction on the selection of suitable varieties. Here in the Dahlem gardens there are a few small groups in the morphological section where this last principle is carried out to some extent, but it is far from complete. I hope we will be able to do it some day in the United States.

One very fine way of arranging tall climbing plants here in Dahlem is the way they have erected large pergolas of tall slender poles of yellow locust wood and there these much space needing climbers have comfort and look natural. An improvement on these acacia poles which rot rather quickly would be poles of reenforced concrete of a dark green or reddish color; such concrete poles would not rust or rot and would be congenial to the plants too. The direction of this Berlin Botanical Garden is, as you know, under Professor A. Engler and this gentleman has the name to be somewhat despotic. Well, according to what I saw I have come to the same conclusion, for instance, I will note down a few directions to be seen here and there. The picking

off of parts of plants will be treated as common theft! To
take photographs is not permitted, photographic apparatus must
be left with the gate keepers. Children under 10 years of age
are not allowed, even when accompanied by their parents. (This
 last direction is semi-barbaric, as I saw how a very decent
 couple had come down from Berlin to see the garden, but having
 a nice little girl of about 7 years of age with them, were not
 allowed to enter the garden.) On Sundays and holidays the
garden is positively closed. This is also a most unfortunate
 rule, for how can a working man who loves plants afford to take
 a week day off to see plants? Above the systematic division
 one finds these inviting inscriptions: "Eintritt nur gegen besondere
Erlaubnis gestattet. One is also prohibited from walking on the
grass." As several plants and trees are standing, however, far
 from the roads, it means that one is denied the pleasure of exam-
 ining such plants closely or reading their names. Well, all I
 hope is this, that the Berlin public some of these days will
 raise a howling protest against these outrageous rules. Of course,
 I admit that our so-called Botanical Garden in Washington, D. C.,
 is also closed on Sundays, but then, any person with some sense
 knows that place to be only a Botanical Garden in name and a
 standing disgrace to the American Nation in its present shape
 and ways. I cannot say so very much about the plants in general
 in the Dahlem Botanical Gardens. While in a large garden, with
 live material it is attractive, in a museum it is decidedly a
 failure. Everything is new and young and they are still rearrang-

ing several groups. I was struck, however, with the beauty of a clump of Sambucus glauca from our Pacific Coast; these shrubs with their beautiful blue-white berries were decidedly attractive. Hippophae rhamnoides in varieties with dark and light orange and yellow berries were also strikingly beautiful. Alnus cordata, var. genuina, from the Northern Caucasus has very dark green leaves, is of a spreading habit and retains its foliage until after heavy frosts. Rhododendron dahuricum was in bloom and proves very hardy. It is a deciduous species and could perhaps be used as a factor in creating hardier Rhododendrons that would be able to stand, for instance, the Minnesota and Wisconsin climates. Prunus sibirica has a future as an hardy, ornamental shrub or small tree in our Northern states. The conifers in general were not very healthy looking. The soil is pure sand and the water drains off very quickly on account of the topographic of the whole garden being so undulating. I had talks with Prof. A. Engler, the Director, and Mr. K. Peters, the inspector, and heard that they still want more alpine plants from the Rocky Mountains and from the Appalachians. Conifers that are able to stand more drought are also badly needed. Some seeds of the Northwestern Aralia horrida would be accepted with thanks. Mr. Peters said that that plant is not to be had from nurserymen. I noticed that many scales occurred on the trees, especially on the poplars, Corylus aucuparia, willows, alders and Ulmus sp. Whether the drier situa-

tions than those plants are usually placed in, have brought about these parasites, I do not know, but there were a good many, as you probably have seen by the samples I sent in some days ago.

Now the Botanical Museum in connection with the Berlin Botanical Gardens, where I also spend half a day. Well, there also the geographical arrangement has been introduced, and -- while in a large garden with live material it is attractive, in a museum it is decidedly a failure. When one wants to study a certain family, say for instance Conifers, one has to hunt practically through all sections of the museum and ordinary mortals have no time any more nowadays for such things. A museum has to be systematically arranged with technic-economic sections, if possible, for instructing the technical part of mankind. The museum is quite new, of course, and is constantly being changed and added to, so maybe after some years it will look better, but in my opinion, duplication of material and multiplication of labor cannot be excluded when the geographical arrangement is being clung to. Prof. Engler stated he would be very pleased to receive some enlargements of some photos I took in China, like the white-barked pine, "vegetations bilder" from China, etc., for this new museum. I noticed here several fine photos of Rocky Mountain flora, of Mediterranean flora and others. There is a Mr. C. A. Burpus somewhere in the United States who



has travelled much and has sent in some fine photos of Mexican flora and scenery. I was told this Mr. Burpus is now connected with the Chicago University. Do you know him? He seems to be an exceptional man, he and his brother are both Germans and have collected in Colorado for a German nurseryman, Mr. Diech, who didn't treat them very well, however, as I was told. One brother returned to Germany and is now inspector of the Botanical Gardens at Darmstadt and the other recently made an extended trip into Mexico and is then now apparently in Chicago.

I wrote you already a few lines how I found the herbarium here in the Botanical Gardens. It is decidedly difficult to study. An ideal herbarium should be arranged first, of course, according to the natural system, 2nd, each genera in its proper place in its family and then the species should be arranged first alphabetically and secondary geographically, that is, if we take, for instance, Diospyros lotus. It comes, of course, first under Ebenaceae, then under Diospyros, then under L. in this family and then the separate specimens follow in geographical order as is practiced in Rev. Then when looking up D. lotus one finds at once that its range is enormous, occurring in Asia Minor, the Mediterranean, the Caucasus, Central Asia, Afghanistan, Szechuan, Southern China, Central China, North China and Japan. When, however, arranged according to a monograph, one first has to find that monograph and hunt for it and such monographs are often in the possession of someone who studies them and is out for the present. No, I have been now in a good many herbaria of

late and find that for a sound and quick method, the one as I described is the best.

A model herbarium building should also be a structure in itself, of fireproof material throughout, with low ceilings so that one doesn't have to carry step ladders around and shovel the packages of plants in their cupboards with more force than is good for them. Plenty of working space is also needed; then the rooms must not be too broad so as not permitting the light to reach even the middle section of the rooms. A cozy, not too large reading room with library attached, ought to be in the building. Such a herbarium and Botanical library building could be arranged around a court yard, taking care to have the big reading room windows face the north as one often has trouble now in several reading rooms that the sunlight shines or filters through openings, left by curtains.

Well, this is again a whole lot of information. I am these last days in the right mood of noting these things down to you. We have had some 5 days without seeing the sun and as you know, absence of sunlight, when not prolonged too long, produces upon the Caucasian race the remarkable quality of becoming more fertile in thoughts.

I am not sure that I will select a large city as my future abode. The amount of time one spends in getting to and from the suburbs is really tremendous. To go, for instance, here from the heart of Berlin to the Botanical Garden takes a solid hour and the systems of transit are so many and so rather

complicated, that one has to train special nerves for this business. The Berlin authorities try to keep traffic on the streets down to a minimum, so one goes mostly by railroads but those leave all from regular railroad stations and several of these stations are not yet connected except by a very round-about way and thus one has to take motor and horse busses to reach ones railroad stations and these affairs are trying and time-consuming.

Well, tomorrow I hope to say goodbye to the Berlin Botanical Garden authorities and proceed to Breslau to meet my interpreter and after a few days I will be in the Russian capital, where I hope to find some important mail.

Hoping you are able to wade through all this scrabble,
I remain

Very sincerely yours,

FRANK H. LEYER

P.S. My best regards also to all those who read this.

I am also sending you herewith a guide with map of the New Botanical Garden at Dahlem. It may come in handy some day. I marked the package VI in conformity with the other 5.

Warsaw, Poland,

November 17, 1909.

Dear Mr. Fairchild:

This journey has started full of troubles. Firstly, my Russian interpreter didn't turn up quickly, then his and my passports were not accepted at the Russian frontier and we had to return to Breslau and now our baggage is temporarily gone. We expect to obtain it, however, in St. Petersburg, if it is there. Well, Russia is not an easy country to travel in and especially not near the Western frontier. Later on more details.

Very sincerely yours,

FRANK H. MEYER.

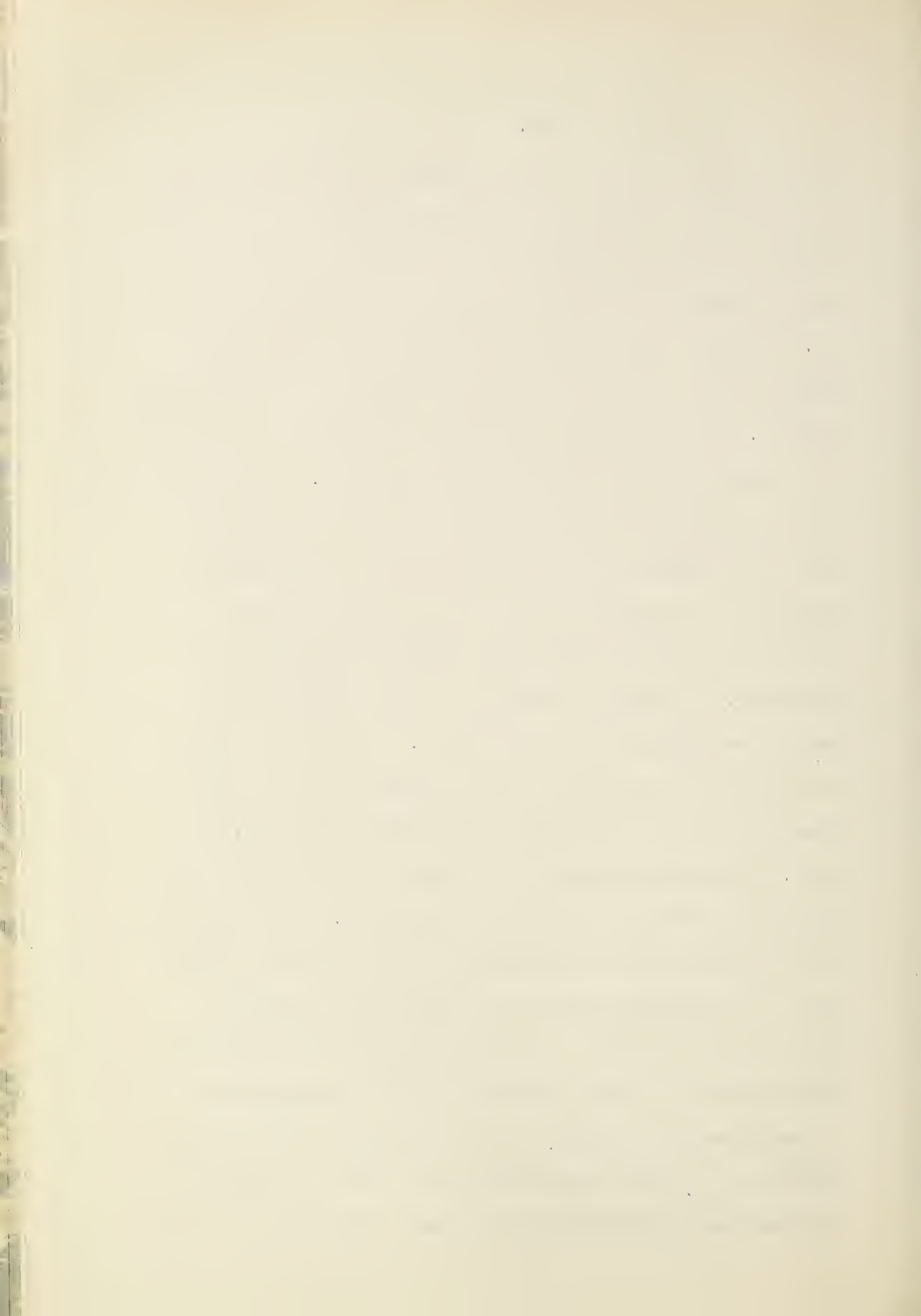
St. Petersburg, Russia,

November 26, 1909.

Dear Mr. Fairchild:

It is about a week ago since I arrived here and I haven't been able yet to write you an official letter. Well, I have had a whole lot of bad luck these last times, and I will tell you about it. As I wrote you per card, I landed in Breslau on Sunday, November 7, 1909, and I certainly expected to find my Russian interpreter there whom I had written a week before, but he wasn't there and didn't turn up until Tuesday, November 9. He had had delay with his own business and instead of writing me

straight-away a postcard, had postponed it until he expected me to be already in Breslau and then he came himself. Well, I had shown him already my passport while I received him in Berlin and he pronounced it to be all right and he said his own was O.K., too, as he had gone back and forward across the Russo-German frontier several times and never experienced the slightest troubles. So on Wednesday morning we left Breslau very early in the morning and had our tickets read to Warschau. Arriving in Kalish, a Russian frontier town, we had to submit to customs house formalities, but -- as soon as the Gendarmes saw our passports they notified us we could not enter into Russia because our passports hadn't been visaed by a Russian consul in Germany. There was no use talking. We simply had to go back and our baggage was held in Kalish. In Breslau I first had to obtain a certificate of my religion from the American Consul and then had my passport visaed which cost me 4.90 marks. My interpreter had to write home for a new paper and a few days after he got it and had it visaed too. In the meantime I had found out from the American and from the Russian consuls that it is absolutely prohibited to import fire arms into Russia and that cameras are liable to be taxed with very high duties and as I had both a revolver and a new camera bought in Berlin among my baggage, I wrote immediately to the Russian authorities in Kalish requesting them to return my baggage. As no answer was received within three days, I wired for it with



answer paid, but still no answer came and fearing the things were lost or confiscated we left Monday, November 15. This time we were allowed to pass the frontier, but the baggage was not to be found there any more. We spent part of November 15 and 16 in Kalish and obtained the disagreeable news that the baggage was probably in Warschau and that my letter and telegram had been mislaid, which I consider a plain lie! Well, our first tickets to Warschau were in the meantime declared to be of no value any longer and we had to buy new ones. In Warschau I went to the American Consul and tried through his influence to obtain my baggage. This gentleman, however, assured me that he himself was the victim of several matters of this nature and that it was absolutely impossible to make Russians do what one would like to see them do. Then we went to the Russian customs house a couple of times and requested them to forward my baggage to me care of the American Embassy, in case it turns up. I signed some papers, paid nearly 5 roubles for cost of tracing and forwarding and -- haven't heard a word from it as yet, though we went several times here to various authorities. And all this trouble could have been modified or perhaps prevented if my interpreter had only been better informed. I had some serious talks with him about these matters and he claims that the laws have been made much more severe these last months and that in the section of Russia he has been living, he never had any troubles, etc. I am looking, however, for a somewhat more intelligent man who takes some more pains about these

passport and other matters, but I may say that it is a very hard matter to find the right type of a person in a country so ridden by bureaucratic and autocratic rules as is Russia.

My rougher baggage, like stationery, underwear, packing material, etc., which I shipped from Liverpool, has at last been found. It has been here for over two months in the customs house warehouses, but they had not deemed it necessary to notify me of its arrival or of its location and we spent from Monday until Thursday night before I regained possession of it. As the shipping and custom house people have only business hours from 10 to 3, one doesn't accomplish much in one day. Yesterday, for instance, we spent a solid day in the customs house itself, I signed 5 or 6 times, the papers were passed through the hands of 25 people, my baggage was taxed to the amount of 20.89 roubles, although I could not see where they put that duty, save for stationery, some new seed bags and for a few dollars worth of medicines. I was asked whether I was willing to pay it or not. Well, I thought it better to say yes, otherwise they had perhaps never delivered it to me. But so severe are these things here, that our passports were visaed here in St. Petersburg by two branches of the police, viz., by the city authorities and by the Department for foreign travellers. It took them 5 days before we got them back and we had to pay 80 kopecks for the privilege of having a stamp put on them. Yesterday I had to state again in the customs house where the baggage went to (that is our

hotel) and for what purpose it was! I would certainly not advise ordinary tourists to visit this country under present rules and formalities. It was far easier a couple of years ago in Eastern Siberia. There I never was subjected to so much trouble.

I had some talks with our Ambassador here about my travel and asked his assistance in getting these matters pushed through: As he is quite new here, he introduced me to Mr. Montgomery Schuyler, Charge d'Affaires. This gentleman informed me that they had received our request to be allowed to visit parts of Turkestan for Botanical exploration, but the Russian authorities were not satisfied with our plans and want the exact dates I expect to be in such and such a place and how long I expect to remain in such places. Well, that is almost an impossibility to state that in our work. When my baggage with maps and notes turns up and I have seen some authorities in the Agricultural Department here in St. Petersburg, who may give me some hints how to do things, I will make out such statements as the authorities want. This whole business may last still longer than we expect.

I have received a great many letters of late, from you as well as from outside parties. The last ones I have answered for the greater part and those from you I will take today and tomorrow, between the times I am going to the Embassy and the customs house.

I remain, Mr. Fairchild,

Very sincerely yours,

FRANK M. MEYER.



St. Petersburg, Russia,

November 26, 1909.

Dear Mr. Fairchild:

Now I am coming to the answering of all your letters that I found here upon my arrival and the few that came in since. In your letter of October 12 you are telling me about the good opinion Mr. Aaronsohn has about Amygdalus davidiana as a future stock for desert regions, which opinion I prize very highly. It is my own thought, too, by the way, that this Amygdalus is one of the most important of all North Chinese plants for stock purposes in such arid and semi-arid regions where a moderate amount of water can be commanded for irrigation. I am very glad you will try to get in closer touch with those Aproreta I wrote about in former letters. They truly possess some material of the greatest importance to us, and although we haven't as yet permanent collections of live plants ourselves, a few things will crop out and be utilized by hundred of people in the near future.

1st letter of October 13, with enclosures about my old Chinese interpreter, Mr. Chow Hsi Ting. I see from Mr. Fisk's letter that he probably has returned to Peking, I didn't as yet receive any tidings from him, but wrote him a few months ago.

2nd Letter of October 13, about Mr. John B. Smith asking for further information about Azolla. These matters have since been straightened out.

Letter of October 15, announcing me that accounts for August and September, 1909, have been received in good shape. O.K.

2 letters of October 19, giving me the information that my letter of October 6 from Orleans and a package with various samples, sent from Angers have been received.

Letter of October 21, with enclosure of Dr. Van Fleet's letter of October 15 about various trees and shrubs I mentioned as existing in the collections of Messrs. Maurice L. de Vilmorin, Phillipe L. de Vilmorin and G. Allard. I am very pleased that Dr. Van Fleet takes such an interest in these matters and am convinced he will make some fine uses of them.

1st letter of October 28, with enclosure of Mr. Hans Schulz' letter, dated Bremen, September 29, 1909, about apricot kernels in Turkestan. Yes, I have heard of these sweet kernels too, existing in Turkestan, but as you may see in your inventories, I have introduced from North China not only several pounds of these sweet kernels themselves, but also scions of some sweet kernelled varieties of apricots. There is even a Photo, No. 88, showing an orchard of such trees. I, too, believe, with Mr. Schulz, that there is a future for these kernels, they can be excellently substituted for almonds, like the Chinese do and always have done, as the real almond is unknown in China. I have made reference to their uses in several of my letters, notes and also in that coming bulletin. As you

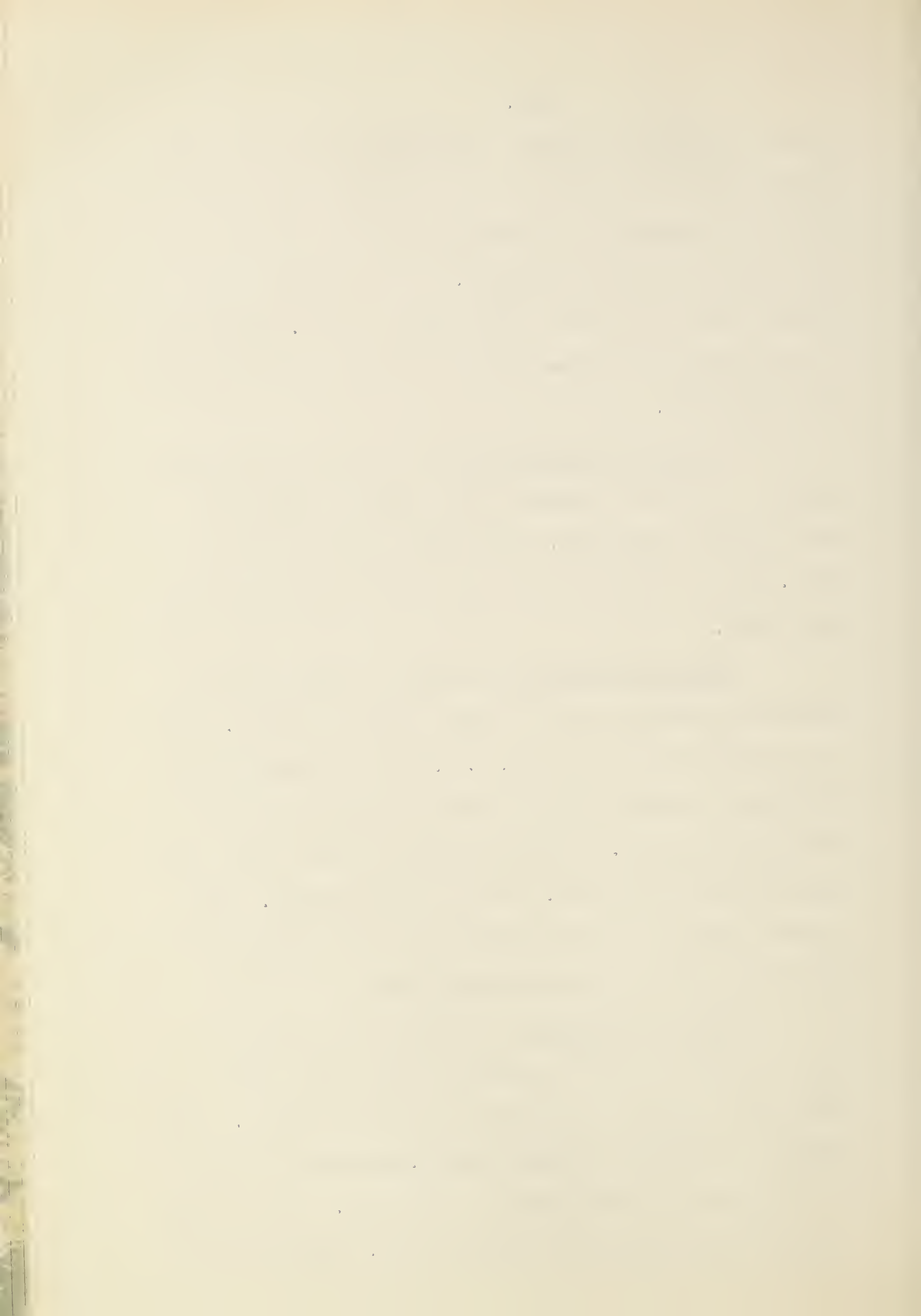


probably will see in my notes, the Chinese grow the best varieties exclusively for their kernels, the outer flesh being then of no importance, but they also have varieties of which both kernel and flesh are utilized. In case you think this matter is important enough, please notify this Dr. Schulz about it and let me see how these apricots fared which we introduced from North China.

2nd Letter of October 28, with enclosed paper about status of scientific employees. As I sent you already some data a couple of weeks ago, having been furnished with papers by Dr. Mann, I will wait until I hear still more from you about this matter.

Letter of October 29, informing me about receipt of letters of October 14 about the Azolla matter in Hamburg. Yes, I too received a letter from Dr. J. B. Smith of New Brunswick, New Jersey, in which he tells me about the moulded condition of the Azolla package. He said he found the whole matter very interesting and will ask Dr. Heering in Hamburg again. Well, I better enclose his letter herewith so it may be filed, for I cannot retain all of my rather numerous mail.

Letter of November 2, with enclosure of copy of Dr. Jorge Reichardt's letter of October 29, 1909, and a letter of introduction from Dr. F. J. Stole to his sister, Frau Dr. Sophie Krizhevsky, Suworonsky, Prospect 44/5 St., Petersburg, Russia. Well, I visited her last a couple of nights ago. She is a very pleasing lady and received me most cordially. She promised me



to look out for an intelligent young fellow who is willing to go with me and I received today a visit from an acquaintance of hers who may fill the bill. This acquaintance is a young man, a student, who appears to be quite intelligent, speaks Russian, English, and German, and is willing to rough it with me. My present interpreter proves too unintelligent for interviewing scientific people and in case I get permission to travel into Russian Turkestan, I will send him back to his home again, although I do not know, of course, how a new man will behave in our rather trying work, where an interpreter is only a tool to be employed for matters he himself often does not take the slightest interest in.

About obtaining more information about the firm of Reichardt and their representatives in Bokhara, Messrs. E. Parkinson, E. Sykes & Wm. Donchue, yes, I will see Mr. Schuyler of the Embassy about it and will let you hear later on.

You also state you are in receipt of a package of folders and booklets addressed to me by the Immigration Agent of the Chicago, Milwaukee and St. Paul Railway, and ask me whether I desire them forwarded. No, they are too bulky for that, but, if they could be stored somewhere until I come back again, that would be quite pleasing to me. There may be a few items in them about dry land farming and moisture conservation worth knowing to me, the more as I received a personal letter from that same railroad company asking me to prepare a small pamphlet about moisture conservation, etc. They asked me to

state what expenses I want to receive, etc., but I won't go in for that. I will simply write them a couple of pages, expressing my own views as I aired them before the dry land agriculture congress in Cheyenne last February and that will be sufficient.

Letter of November 5, informing me that Dr. C. O.

Townsend has been able to isolate the gall-producing organism from the specimens of *Arbutus unedo* I sent in. Yes, very pleasing to know that I found something unknown in that line in America. Mr. F. Delaunay, the nurseryman in Angers, who gave me those specimens and has still more affected plants of them, told me he had also forwarded many specimens to the Musée d'Histoire Naturelle in Paris, where a gentleman experimented with them. As such I would suggest to Dr. Townsend to see if anything has been published about these experiments.

Then, I received a descriptive pamphlet about the new book of Sven Medin, "Trans-Himalaya", which pamphlet I suppose you sent me, isn't it? I hardly think I will order the book, though, as my baggage is already cumbersome enough.

I also got a letter from Mr. Estabrook, dated November 9, 1909, showing me my accounts to be in good shape and a letter from Dr. Albert Mann of November 11, 1909, also informing me about certain financial difficulties being peacefully settled with Dr. Mann's able assistance. My thanks to thee, oh Warriors!

Well, this is the end of answering my official cor-



respondence that came in as yet. I conclude with best of greetings, also to all others in the office. I remain, Sir,

Very sincerely yours,

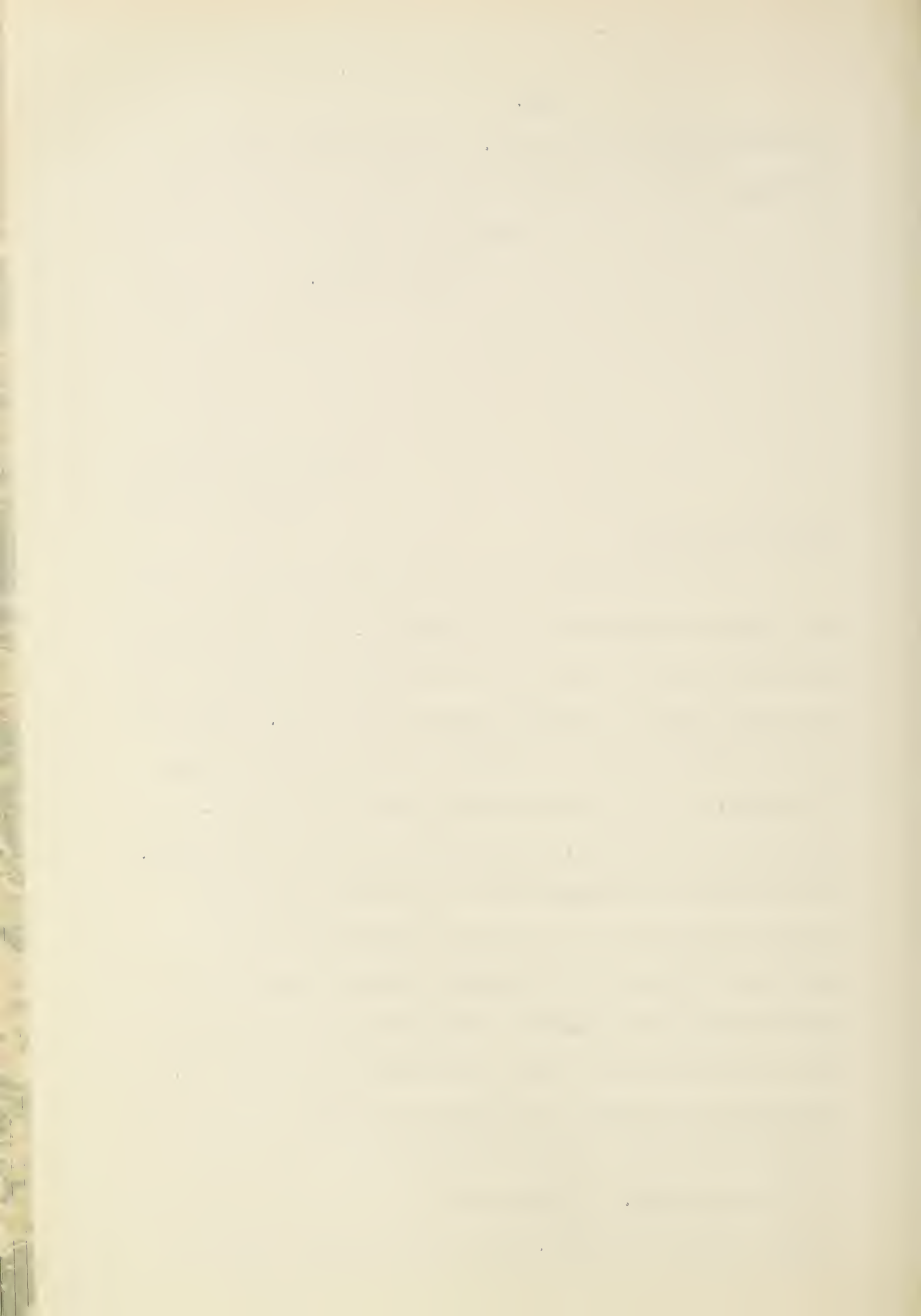
FRANK M. LEYER.

St. Petersburg, Russia,

December 9, 1909.

Dear Mr. Fairchild:

It is again some time ago since you heard of me, isn't it? Well, matters progress but slowly here. My permits haven't come yet, though our Embassy here is in negotiation about it and we expect things to be settled within a week or two. Permissions to wear fire arms and to be allowed to photograph haven't come yet either, but they will also appear some of these days. All things go very slow here, so different from in most other lands! My temporarily lost baggage has at last turned up and I was enabled to look through my notes and correspondence about Turkestanese matters for all my maps, notes and former correspondence were in that baggage. According to paper we received with it, the stuff was 12 days on the road from Warsaw to St. Petersburg and I suspect it was sent off only upon the receipt of an urgent official letter of inquiry which I sent the authorities at Warsaw. It took again a whole day to see that baggage through the customs. The days are getting remarkably



short here, it gets to be light at about 9 A.M. and at 3 P.M. artificial light has to be employed again; days and days pass without one seeing the slightest trace of the sun. I believe there are better places in Russia to establish a capital than here on these low swampy shores of the Aral.

Last week I visited the Imperial Botanical Gardens here and was very pleasantly received by Professor Fischer von Waldheim, the director, by Mr. C. Bartelsen, the superintendent who took me for two days all around, by Prof. W. Lipsky, the botanist who is more familiar perhaps with Turkestan than anybody else, by Prof. O. A. Fetschenko, also a specialist on the flora of Turkestan and by several other people whose names I did not obtain as yet. I studied for a day in the herbarium and am struck with the great richness of Central Asian material they have there. It will take me several weeks, if I should study the flora through. In Amarix alone there are probably more than 25 species and some of great value as ornamental or sand-binding plants in alkaline soils.

Then I saw that new fodder plant, Lathyrus mulcari, which Professor Lipsky told me is utilized by the natives of Bokhara as a fodder for their domestic animals. It grows on rather stony hillsides and stands apparently lots of heat and drought; in the Botanical Gardens here they found it a most difficult plant to grow, it dampen off very quickly. Prof. Lipsky told me, however, that I might perhaps obtain seeds in the Botanical Gardens of Tiflis, where they were successful

in growing it. Professor Lipsky has written several books of Botanical nature about Central Asia which books are almost unknown outside of Russia. It would be a most excellent thing for us to come in closer contact with those scientific Russians and this can be done only by having somebody in our office or library who is thoroughly versed in Russian and can correspond with those people in Russian.

I obtained a lot of valuable information from Mr. Bartelsen about places to be visited in the Krim and Caucasus. There are some extraordinary good varieties of hazelnuts in the Caucasus; one is the Trebizand filbert (Corylus avellana maxima) a most surprisingly large nut. Then there is the Baden filbert (C. tubulosa), also a promising nut for the American market. I am going after these things when once there. Curious to say, those people there are very much interested again in the American pecan nuts and are starting plantations of them. In the Botanical Museum I noticed from a few specimens of nuts how the natives of Central Asia utilize the Laticrostis splendens for the manufacture of a very recent kind of netting, that wears well. Some day maybe we will grow this splendid tall grass in our semi-arid Southwest.

In the Caucasus occur some very interesting trees like Fagus caucasicus, splendid oaks, a rare plane, etc., also masses of shrubs, not introduced as yet. A very robust ivy, Hedera colchica, grows to enormous sizes. This last climber may be of great value to our southern states, it seems to be very vigorous.

I also visited Messrs. Fesselring & Co., nurserymen situated on the outskirts of St. Petersburg. We had heavy snow the whole day and I didn't see much of the nursery, but will go back there again. The young Mr. Fesselring is a very bright man, who brought several interesting plants to my notice, like a new species of red currant from the Altai Mountains in Central Asia which currant has very large racemes of berries and is locally known as "Markakylskaja smorodnaya." The sad thing, however, about this berry is that the Russians haven't succeeded as yet in introducing it, so we ourselves have to go after the plant. Then there is another currant occurring near Yakutsk (Ribes lichsha) which must be able to stand most remarkably low temperatures and may push currant-culture to the most northern regions. In Amchatsk there is a Sorbus semoncifolia, producing edible berries and also being able to thrive where ordinary fruits cannot even be thought of.

Yesterday and today I spent in having talks with various officials in the Central Agricultural Department here. There are hundreds of people just like with us and one could go around for weeks gathering information. Curiously enough, notwithstanding such great differences in race and language, the Russians are developing their agriculture much along the same lines as we do and they, too, face those numerous problems that a nation possessing much territory has to front. Today I had talks especially about the good table grapes from Turkestan; there are indeed some very fine ones there, which are sold here



right now in the fine fruit stores. The best qualities cost 1 rouble per pound and though the skins are somewhat tough, the taste is fresh-sweet. These grapes have marvellous keeping qualities and look very nice. Dr. A. G. Romanovski, the viticulturist in charge of this Department of Agriculture told me that there are also native tough-skinned grapes in the Irin like "Chadim barmack" which he considers a very fine variety; Navishi, a very good one, too, making bunches 16 inches and more long; and Charas, another good variety.

Prince V. J. Lazalski, also of this Russian Department of Agriculture, told me that the four best grapes from Turkestan were Kata-Kourkan, Sai-fi, Char-chi and Chourzaini. (This last one occurs in 3 varieties, white, red and rose.)

The Russians are also publishing and have been publishing several books about Viticulture in Russia. I was presented today with a copy of Professor Shalngasakoff's book about the crops of Turkestan, (which book you have also.), with a copy of Vol. VI. Viticulture in Russia, section Turkestan, by M. Ballas and also with a copy of the "Report by the Commission Investigating Grape Culture and Wine-making in Russia." There are many linguists among the Russian scientists and today we spoke English, German, French and a little Russian, too. I find it extremely fortunate that I learned a few languages; without it life would be here somewhat like in China, away from the coast. I also saw the Agricultural Museum yesterday; there is a mass of interesting material there,



too, like those hundreds of varieties of wheat, barley, oats and other grains; many woods of economic uses, medicinal herbs, fibres, oils, stuffed domestic animals, agricultural machinery (these last nearly all American), etc. If a little more Latin or anyway Latin type was used, it would facilitate a foreigner a whole lot more, for now one has to have most names translated by one's interpreter, which is a tedious, unpleasant work. By the way, I haven't found as yet a very suitable man to go with me. I got addresses of men in the Arim and Caucasus who were especially versed in grapes, but an all-around handy man I haven't found yet. The young man I wrote you about told me a few nights ago that he, being of Jewish faith, is not allowed to go into Turkestan unless we get a special passport for him. I spoke about it to Mr. Montgomery Schuyler, our Charge d'Affaires here, and he said it was probably better to look for another man, as we might get into troubles.

Tomorrow I hope to go to Letsnoye, a forestry station in the neighborhood, where I may see some interesting hardy trees and shrubs. The weather of late has quite changed here, we had cold rains for three days and the snow has disappeared again from the streets, but something worse has been left, viz., liquid mud.

Well, I will close herewith, with kindest greetings to you all, I remain

Very sincerely yours,

FRANK M. MEYER.



St. Petersburg, Russia,

December 21, 1909.

Dear Mr. Fairchild:

Still in St. Petersburg and as yet no signs in sight what time my various permits will show up, allowing me to visit Turkestan. I have had many conferences with Mr. Montgomery Schuyler, our Charge d'Affaires here and he and his secretary have phoned and written several times to the Foreign Office about my affairs. It seems there are no objections to my proposed visit to Russian Central Asia, but--a speedy permission is not coming either. What I am going to do in case they keep this state of affairs up, I do not know as yet. As you know, they knew since long what our plans were in regard to Central Asian exploration; you even having outlined our plans in a letter through the Secretary of Agriculture. Well, they wanted more particulars and dates, especially about what time I being in those places. I expected to visit. They got that information several weeks ago; about 10 days ago, however, they let us know that they wanted to know exactly the route I was going to take from Andishan to the Chinese frontier, which is quite sufficient, as there is only one main route, however, I had to state again what places I expected to pass from Andishan to Kashgar.

Some three days ago the request came in again about more particulars about interpreters or guides I expected to take with me from here into Turkestan. A very difficult question to answer, for in case a man should become ill or turn out to be

unsatisfactory and I had to send him back, I could not be allowed to substitute another one before I had obtained again the permission of the Foreign Office through the official channels, to take such a new man with me. And not only that, but not until last night did I find an interpreter sufficiently to my liking and of enough intelligence to take with me on this difficult trip. Why the Russian Government should feel obliged to be so particular about this journey is as yet a puzzle to me. Maybe the troubles at the Persian frontier have something to do with it or some native uprising or Heaven knows what, they want to shield from outside eyes! The Government from Turkestan stands under a military governor and he seems to have absolute power to expell or not admit anyone to whom there is some reason or another some objection. Mr. Schuyler told me that some months ago a reporter for an American magazine was expelled from Turkestan although he had been admitted at first, but when they saw he was taking photographs, objections were found against his being there and I heard of other cases, too, which would take me too much space to mention.

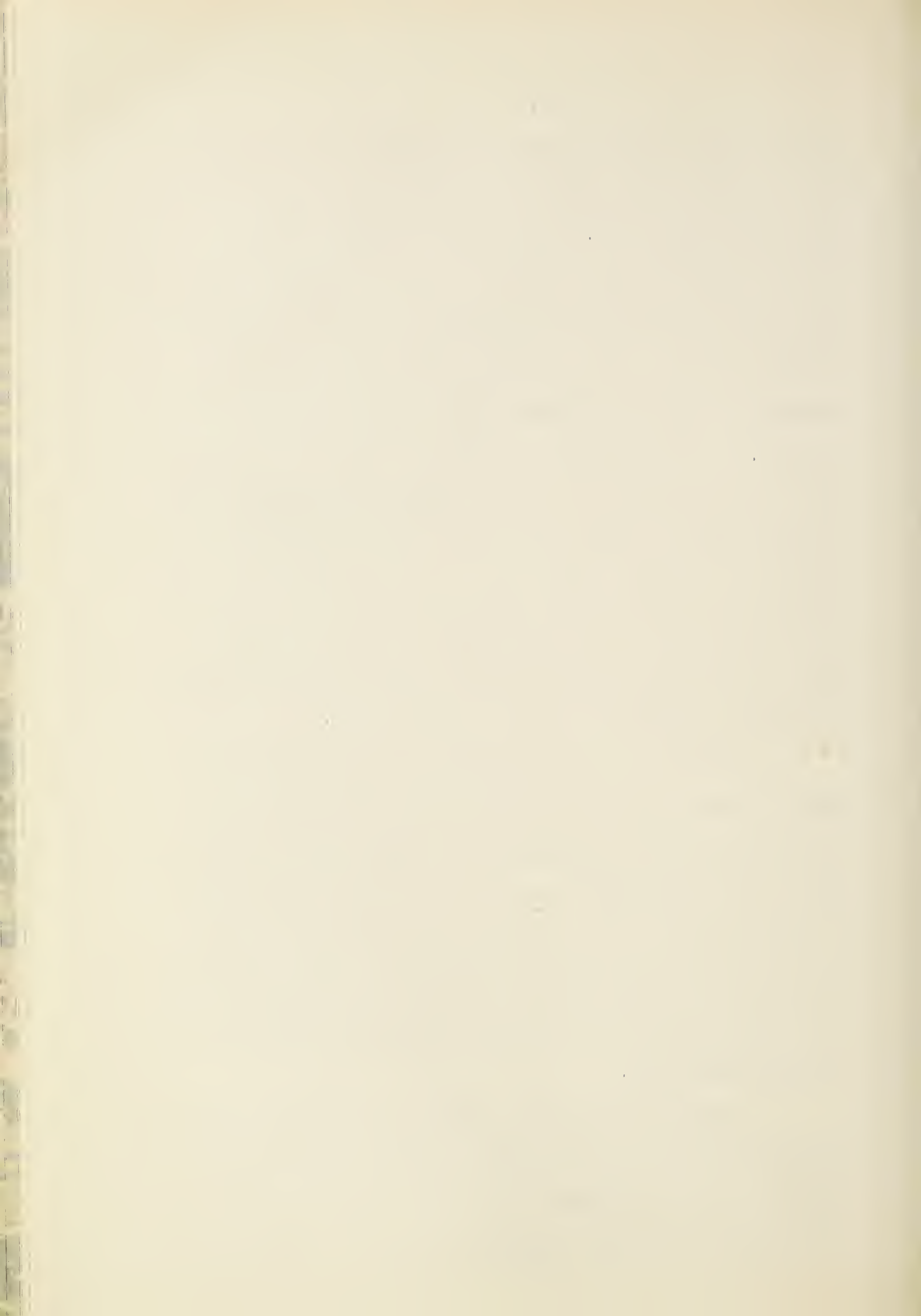
However, this whole affair is most disagreeable to me and it may frustrate our plans of a successful exploration of Central Asia, that is of at least the Russian part and for this coming winter; it is in fact, a repetition of the same state of affairs I encountered in the spring of 1906 while trying to explore Manchuria where, as you know, I was subjected to similar annoyances and delays.

I see by your letter of December 2, 1909, that you

are trusting, I am making rapid progress for an early start toward Tashkent and do not (I pray you) spend any more time than is necessary in St. Petersburg to get well prepared to find the really valuable things in Chinese Turkestan. Well, what is your own opinion about these delays and what are the thoughts of others in the Department about it? You know, I expected to visit also Moscow, Arapta, the Crimea and the Caucasus. The first place for a couple of days to get somewhat more information, the 2nd for Pedicularis cancellata, either plants or seeds, the 3rd locality for several *Aralias* and for cuttings of the hardy olives at Nikita near Yalta and the 4th place for its many promising fruits, like very fine grapes, large filberts and hazelnuts and for its many beautiful trees and shrubs, that haven't been introduced as yet.

Now there are several moves we can make upon this board of Chess. The first is this: Should the Department be dissatisfied with this non-progressive exploration trip and should there be decided to call me back to Washington, then I will resign and accept a post in Russia and stay here in this land until I fully know the language and have learned all about the products of this immense country which will take me at least three years.

The 2nd move is this: Could I get hints that this game of letting me wait here without giving me the necessary permits be kept up somewhat longer, then I would suggest that if no objects are found, I proceed from here by railroad to



Peking and start my work from there with the object of reaching Chinese as well as Russian Turkestan from the western side.

However, as this trip is a very long one, I probably would do best to collect all of the economic products of those parts of China I pass through, like the many varieties of persimmons, peaches, pears, grapes, rains and odder plants; by doing so this trip would last then 2 or 3 years.

The 3rd move is the following: Should permits not be given soon, and as such frustrating a successful winter exploration of Turkestan, I will proceed very soon to the Crimea and the Caucasus, risking to travel without permits to wear firearms or to photograph and collect in those two localities all of the interesting things we get hold of. We simply would see then how long it would take the authorities to give us the necessary permissions and would try to use such permits for future work.

Well, here you have my state of mind about this whole affair. There is always a great waste of time and life's energy connected with exploration work in lands where customs and languages are so different from one's own and an explorer is like the captain of a ship; viz., in case of a shipwreck he has to take the blame, whether he could have prevented it or not, while the people at home, who have the pleasure of family life and the good conseil of friends, are at liberty to criticize or judge one's acts in quite a different light as the man on the spot sees them.

In another letter I will answer the several letters
I received from you.

I remain, Mr. Fairchild,

Respectfully yours,

FRANK M. MEYER.

St. Petersburg, Russia,

December 21, 1909.

Dear Mr. Fairchild:

Herewith I am going to answer your several letters
that arrived up to the present.

Letter of November 16, 1909, announcing the receipt
of four packages I sent from Berlin.

4 cards, each dated November 16, telling me the same
as the above letter.

Letter of November 16, 1909, in which you state the
welcome news that Mr. Peter Bisset has taken the oath of office
and will be in charge of plant distributions. I feel obliged
to congratulate you and the office with the number of unusual
strong men that have been added to it these last months in the
personalities of Messrs. Dorsett, Van Vleet and Bisset and
trust that through their valuable services we will be able to
bring the questions of more successful propagation of newly
introduced plants and the establishment of one or of more

arboreta to a happy close.

I am sorry to see that you had to fall back again upon the Arlington Farm for a nursery; there were better places in the vicinity of Washington!

I certainly wish I could have seen Mr. Young's exhibit of Aroid-Rhizomes in the greenhouses. I, too, believe there is a future for them, probably not as a human food with us Caucasians, as they are somewhat insipid, but as starch and alcohol producers and as a fodder for milk and beef cattle and for fowls, swine, etc.

I see Mr. Welter is working on an avocado bulletin and Mr. Clarke on the now stone-dead rush experiments. I hope they both will have more luck with their publications than Mr. Barret and I for the present.

The Crataegus Azarollus, which you say Mr. Aaronsohn has used successfully in Palestine, is an old acquaintance of ours. The fruits are sparingly sold in first class fruit stores in Northern Europe and are imported from Spain and the South of France. By the way, Mr. Aaronsohn seems to like it in America. Did he find much of value to his native land?

You can't answer this question, of course, but in case Mr. Aaronsohn himself is still in Washington, you might tell him of my interest in his work. Explorers and plant breeders are, thank God, not tied down to stupid narrow frontier lines like military people and others of the same genre!

Letter of November 26, 1909, informing me that Mrs. Flora Patterson thinks that the Hydrangea leaves I sent in are apparently not injured by a fungus, but by an evidently saprophytic growth.

Letter of November 28, 1909, telling me about the sample of paper I sent in as used by Barbier & Co. in Orleans and considered by the office as a valuable wrapper. Glad to hear this. If it wasn't so bulky, I could use it too in my work, but it comes in large rolls like linoleum and is fairly heavy.

Letter of November 30, 1909, with enclosure of a list of determinations of the entomological material I sent in from Berlin. I am always glad to hear of such things, especially if something rare or valuable has been found among it.

Letter of December 2, 1909, in which you wish me to make as early a start toward Kashkent as possible. This item I discussed in my letter to you of yesterday, December 21, 1909.

Then you state that it is hard to write long letters. Yes, I realize that and know from having been so much with you, how large your correspondence is. I ask for this very reason, few, very few questions, but I think it will be better for you to split up your correspondence between the different members of your office, then in case they want some more information from me or I from them, we enter into correspondence without you having the bother of it. Please let me know about this.

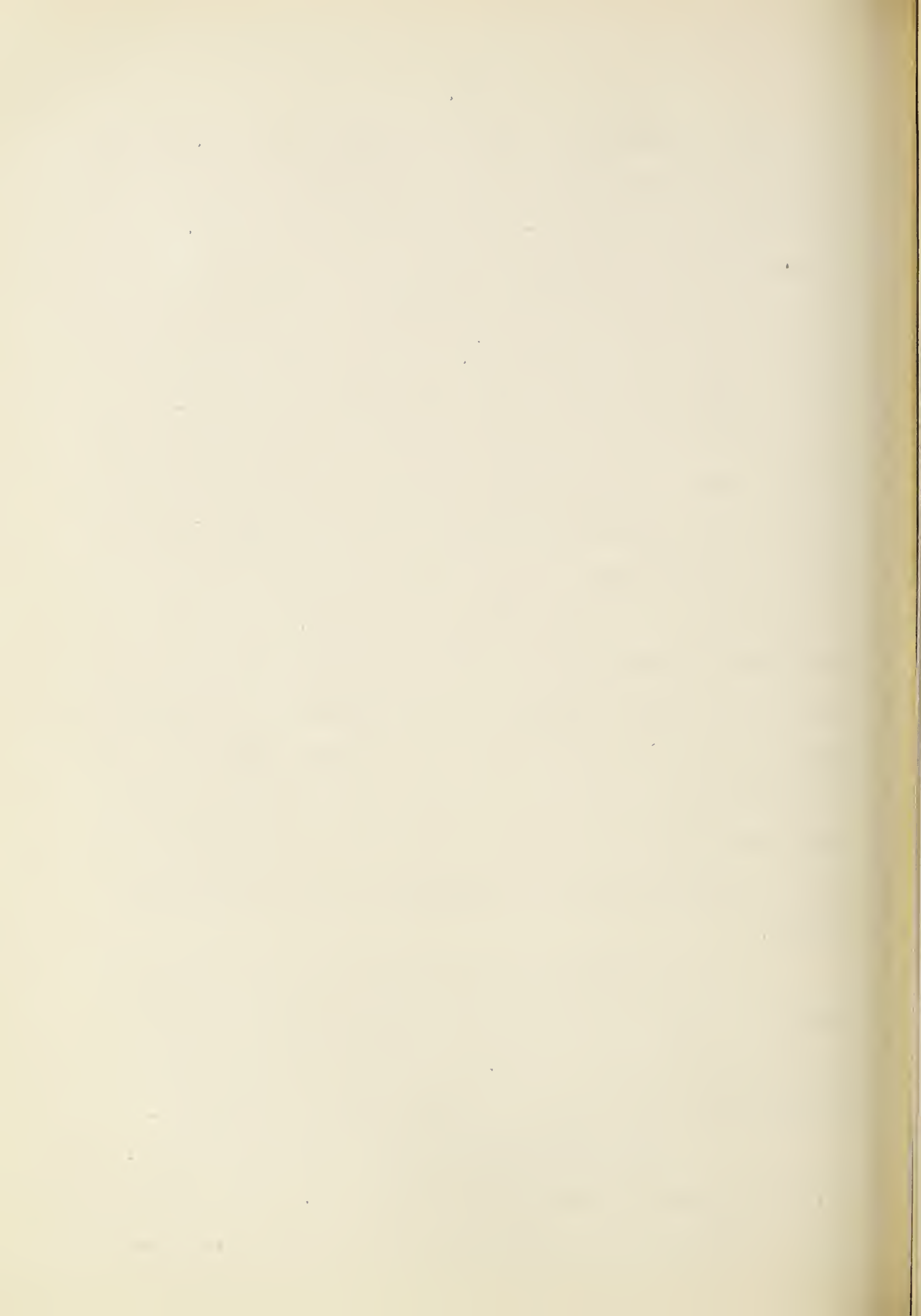
I see how Professor Sargent sent you some of Wilson's photographs. Yes, I saw most of them as I wrote you at the

Flower Show in London and at the photographers' home in Kew. If fate hadn't prevented from you and I meeting in England, we would have had some important talks about it. That was impossible, however. I see that you and all the boys say that they must have photographs of such specimens of trees, that no other ones appear on the plate to mar the view. Well, well, how charming! Just as if nature had planted trees so, that a photographer could simply come and snap them! Then you say that the public is demanding of us better photographs and more of them. Well, the public is like a sponge, never satisfied and they will take one's best pictures, publish them in some flimsy magazine, tell some lies about them and a few days later nobody knows anything more about it. We cannot cater to that taste! If the public is so extremely interested in photos, let them search through the countless files of various institutions, where so much valuable photographic material is buried or let them send out photographic expeditions. It were better that the public come to realize that some good permanent collections of plants are of greater value to the world's lasting good than some sensationallly-written exploration trip by some slipshod reporter.

I personally will try as well as I can to obtain good photos, but I cannot say what I was very much assisted this past year by our official photographic force. Of how many did Professor Sargent ever receive duplicates of photos I took in China? I believe not.

Letter of December 6, 1909, regarding Bulletin.

Well, this is rather unpleasant and unexpected news. About the transcription of Chinese characters, as it could create a precedent, well,



what of that? Are we willing to be so old already in America,
that matters of scientific interest are going to be judged by
precedent? That will be fatal to progress!! You also say
 that we were making a good deal of the Government when we re-
 quested an innovation of this character without having first
 the matter discussed and re-discussed in a broad way from a
 Governmental standpoint. Well, I personally think not. It
 would have been, as you said yourself, in one of your letters,
 "A meeting halfway the Chinese." I know, of course, that from
 a strictly American economic point of view, Chinese characters
 are as useful as the rainbow in the skies, but from a broad
 scientific stand point the insertion of them in an official
 publication would have been the laying of stepping stones to
 mount to higher structures. In case this whole bulletin might
 not be published by us, I think we better put it then in the
 hands of some private publishing house or ask the assistance
 of some interested people, for, although I say it myself, there
 are some observations in it not known to the Western world as
 I found out these last months by talking with many European
 authorities.

I also received list No. 21, Foreign Plant Introduc-
 tion, in which I see several very interesting items, as about
 cultivation of Calamus by Mr. Lyon; fodder-watermelons from
 South Africa (they grow there in California, too, under the
 name of citrons, a long, deep green variety they are, with
 toughish flesh). New mangoes from the Philippines, a yellow

rose, collected by Miss Cramer. On page 9 I see Mr. Lyon will try to get seeds of D. Elaeagnifolia, What kind of a D. is that? I suppose Diospyros.

Well, this letter is again somewhat bigger than you like them, isn't it?

With best regards to you all, I remain,

Very sincerely yours,

FRANK M. MEYER.

St. Petersburg, Russia,

D

December 22, 1900.

Dear Mr. Fairchild:

Enclosed I am sending you a letter addressed to Mr. Taylor and an English post card. Would you kindly hand those contents over to Mr. Taylor. In case you find the time, you just might look through that letter, as there may be some item of interest in it, also of service to you.

I remain,

Respectfully yours,

FRANK M. MEYER.

St. Petersburg, Russia,

December 23, 1909.

Dear Mr. Fairchild:

Herewith I am sending you 5 packages by Russian parcel post. They are numbered 364, 365, 366, 367, 368 and contain cuttings of various trees and shrubs.

I enclose herewith the inventory cards relating to them. These cuttings will not grow very well in the semi-tropical Washington climate and are intended for the northern United States; I suggest therefore to send them to our Ames, Iowa, station for propagation. Dr. Wm. Saunders in Ottawa is another gentleman to whom we might send some.

I packed the Nos. 364 and 367 in shavings of the swamp cypress and Nos. 365 and 366 in the Petersburg variety of Sphagnum moss and would be pleased to hear from those who unpack the material, in what condition they arrived. Nos. 368 and 369 are put together in one package and as the difference between the two kinds of wood is so great that a child can even distinguish them, I trust the unpackers won't have the pluck to declare they could not separate the two kinds, as occurred some time ago, when I first sent material from China.

Hoping this shipment will reach you in good condition,
I remain, Mr. Fairchild,

Yours respectfully,

FRANK H. LEYER.

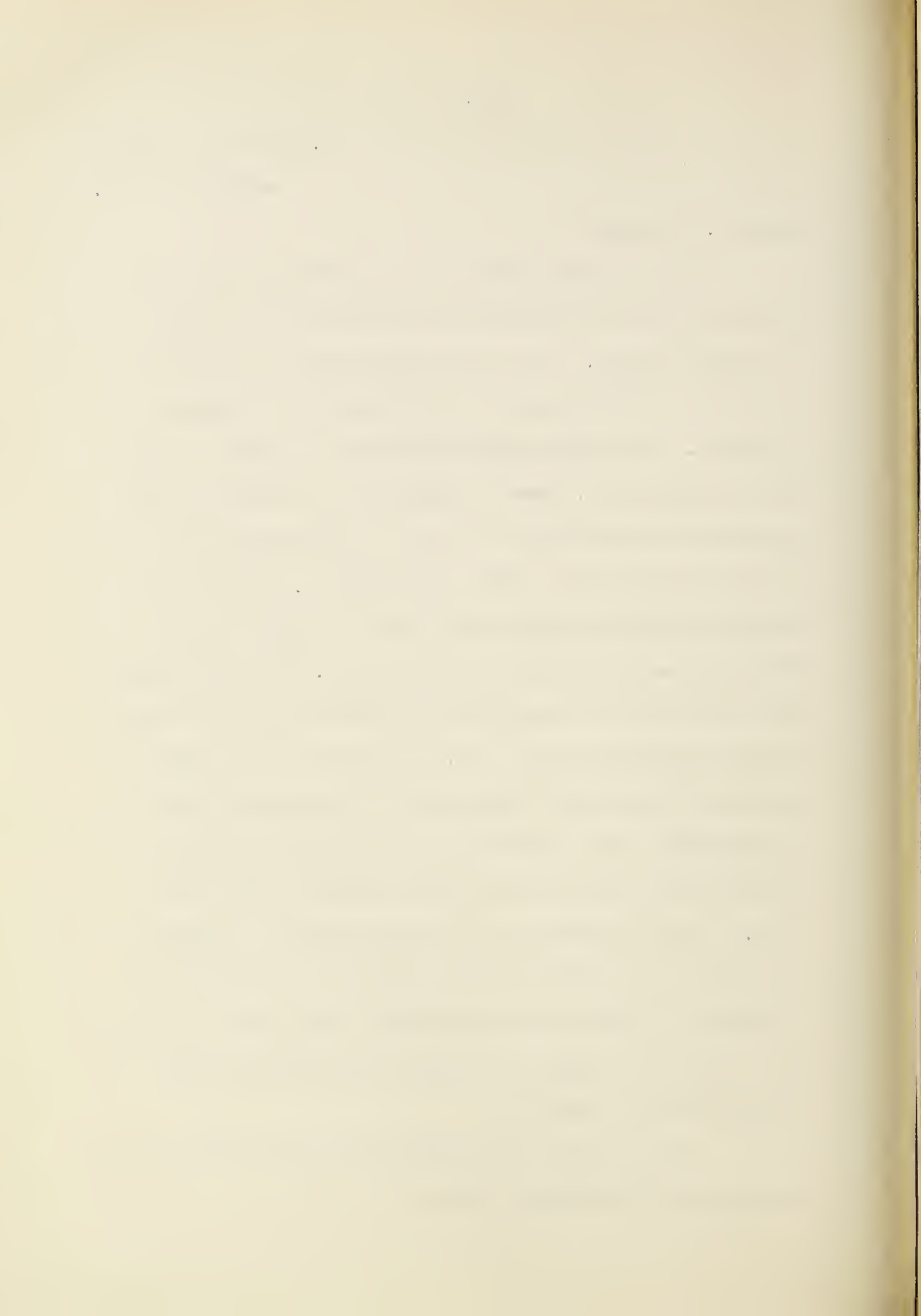
St. Petersburg, Russia,

December 24, 1909.

Dear Mr. Fairchild:

We are experiencing these last times our shortest periods of natural light and one may say that the day only last about 5 hours. This is my first experience of so short a day and the effects upon the people seem to be somewhat deadening. One feels somewhat torpid from the excess of artificial illumination. Upon the population at large the effect seems to be demoralizing; for murder and robberies are the order of the day here. Every night from 2 to 4 murders are recorded, mostly connected with robbery or rapine and one feels not exactly at ease near dark corners. The police seems to be too busy with searching hotels and residences for fire-arms, forbidden literature, etc., to have time to pay much attention to the proper surveillance of streets and other thoroughfares. Some nights ago they arrested 80 people in various hotels and one really feels insecure in one's own room. I was informed that if a person is found to possess a fire-arm without having a permit to have it, he is fined 500 roubles or if one is not willing to pay or not having the money, put in jail for as long as the authorities see fit. What a state of affairs, isn't it?

Well, I will in this letter finish a few minor matters that have been waiting for some time.



Firstly, I received some 2 letters from Mr. W. R. Dykes of Charterhouse, Godalming, England, who appears to be a specialist on the genus *Iris* and who wants to obtain from me such material as will assist him in writing a monograph about this genus. I have written him of my intentions of informing you about it and am enclosing his reply of December 4, 1909. I wish you would kindly send him some plants or seeds of nos. 20185, 20186, 22014 and 22015, which are *Iris* I collected in Northeastern Asia. I enclose both of his letters to enable our office to file his name and see his wishes.

Some time ago I found in the "Berliner Tagesblatt" an interesting account about a lecture delivered by the German Colonial Secretary, Herr von Bernburg, about the cotton production of the world and as this letter is also very interesting to us in America, I wish you would kindly give it to such a one in the Department as collects such information. I herewith enclose this clipping.

Then, you asked me many months ago to talk with Dr. Henry in Cambridge about obtaining information in regard to an exploration trip in the Ito-tze territory in Western China for the American Geographical Society. As you know, Dr. Henry was in Serbia at that time, to our very great regrets, but I spoke with Mr. Wilson about it. He was there in the Ito-tze country, as you know, and even took some photos of the marvellous watch towers, those people erect there. He told me a Frenchman, Mr. Louis d'Anty, Consul General to France at Cheng-tu, Szechuan,

explored the territory of the Iroquois tribes fully and wrote a book about it. Mr. Wilson didn't know the name of the book, however. Perhaps you could find out more about this, through your Washington connections.

I also enclose a small clipping about Panama which is too interesting to throw away. It may be of use to us when establishing there some kind of an experimental station.

Also enclosed a clipping about the tanning gumac from Sicily, which may be grown some day in Southern California or perhaps even in Southern Utah or parts of Texas.

I also spoke with Mr. Montgomery Schuyler about the Reichardt Asiatic Trading Co. Well, this company may be there in Central Asia and they may be all right, but--they are not known to this Embassy here in St. Petersburg.

I also enclose a clipping from the Los Angeles Examiner of November 20, 1909, about a new fibre plant imported from Uganda and planted in a garden in San Pedro. Have you heard of this plant? If not, perhaps Mr. Dewey will be interested to retain this clipping.

Another clipping of interest is that about the plan to establish a large botanical garden in Agricultural Park in Los Angeles. In case you do not retain this clipping I would be pleased to have it returned to me for future uses.

Another enclosure of this letter is a small sample of a fiber, coming from a climbing leguminous plant, growing in the interior of German East Africa and much used by the natives there.

This sample was given to me by Dr. C. Bruner of the Hamburg Botanical Institute, who says it is one of the strongest fibers in the world and you may try so yourself by testing only a small thread. The plant is botanically unknown as yet. I wish you would add this to our collection of fibres, (if we have such a most necessary collection). If not, Mr. Dewey will probably be pleased to get it.

Then, Mr. Alexander Kennedy in Hongki wrote me a personal letter in which he mentions that the bamboo disease in which Mrs. Patterson is so much interested is a new disease to that part of China where he lives. The Chinese told him they never saw it before and they call it a plague. In the mountains it has attacked especially the *Yue-tsch*, a phallostachys, S.P.I.23334. Mr. Kennedy will let us hear more about it, he says, however, that the Chinese say it does not kill the canes, but he is not so sure of that. He wrote me in a second letter that he had informed you also about these bamboo matters and about the Yang mae seeds (Ipriida rubra) so I suppose you got the above news in duplicate, but I simply write this for safety sake. In case the bamboo disease is really new to that part of China, it might have been imported from Japan, as thousands of Japanese plants are imported these last years in China and are readily bought, by foreigners and Chinese alike.

Well, I will close this letter. I marked on the envelope, Personal, because I am afraid otherwise some of these

clippings and small things will drop out, if opened in the messenger's room.

I remain with kind regards also to others in your office,

Respectfully yours,

FRANK A. MEYER.

St. Petersburg, Russia,

December 20, 1909.

Dear Mr. Fairchild:

I am in receipt of your letter of December 10, 1909, together with enclosures or copy of Mr. Scofield's letter of December 6, 1909, and the photograph of Medicago cancellata. I have written to Mr. W. von Arapow in Samara about I am going down to Sarapta and looking up this Mr. Christof there, who may assist us in getting hold of plants or seeds.

A few days ago while here in the herbarium, I met a Mr. W. S. Bogdan, Agronomist, from Treasury but Government, Samara, Russia, who told me he had forwarded a small quantity of seeds of Medicago cancellata to Professor F. A. Madsen at Brookings, South Dakota. When I told him that we in Washington, too, are very much interested in this species and in any other promising Medicagos, he said he would send us some seeds and

would like very much to exchange with us. I gave him your name and Professor Piper's as being the parties he could best get in touch with, also Mr. Carleton's for grains in particular. He doesn't speak English or French, but corresponds in Russian and German. I trust a note from you in German, will bring you in touch with him.

The specimens of L. cancellata I saw in the herbaria of Kew, Berlin and St. Petersburg, do not make it appear to be a very robust species, but maybe it improves under cultivation.

There are some specimens of L. coerulesa here in the herbarium coming from southern Russian and also from Gurepta which species look very promising and it seems to be extremely variable.

Of Medicago falcata there are many forms, some even named, like var. tenuifolia, with narrow leaflets; var. ambigua, of spindly growth; var. desertorum, woody and with small leaflets; var. typica, with few leaves and these very small. All these forms occur in the Alai Mountains, the Ala tau, Thien Shan, around Issyk Kul, Verny, etc., all in Central Asia and in the regions I intend to explore.

Then, Medicago platycarpus occurs in the Ala tau and Thian shan regions and in the valley of the Ili. It is a perennial species of robust growth and bearing yellow flowers. It is quite distinct from other Medicagos and may not readily hybridize with them, I suppose, but it looks very promising as a fodder plant.

M. cretacea occurs in cliffs in the Caucasus; it is a

rather small and stunted perennial species of apparently little value from an economic point of view.

M. ruthenica, is very variable and the big forms look promising as a fodder plant. It occurs mostly in Central and Western Siberia, like near Irkutsk, near Kertchensk, in Mongolia, etc.

M. dagestanica, a small perennial specie from a small district in the Caucasus (Awarsk, prov. Dagestan, Caucasus) not promising to be of economic value.

M. littoralis, perennial of small growth, very tomentose, from the Caucasus.

M. glutinosa. A perennial of robust growth, yellow flowers, quite variable, apparently very promising. Occurring in the Kuban prov. Caucasus.

M. rupestris, a small perennial more or less an alpine, occurring in the Caucasus. Of no economic value.

I also noticed many annual Medicagos like M. denticulata, M. Gerardi, M. lupulina, M. lanigera (from near Bokhara), M. minima (from Caucasus and other places), M. orbicularis (Caucasus), M. rigidula (Caucasus), M. globosa (Caucasus), M. tribuloides (Caucasus), promising as an annual fodder plant, M. faculata (Caucasus) robust growth, promising as a fodder plant.

Then I saw how many species of Trigonella occur in Central Asia, some of those are closely allied to the Medicagos and may play a roll some day as fodder plants, like the M. foenum-graecum which is being cultivated even in Central Asia as I saw

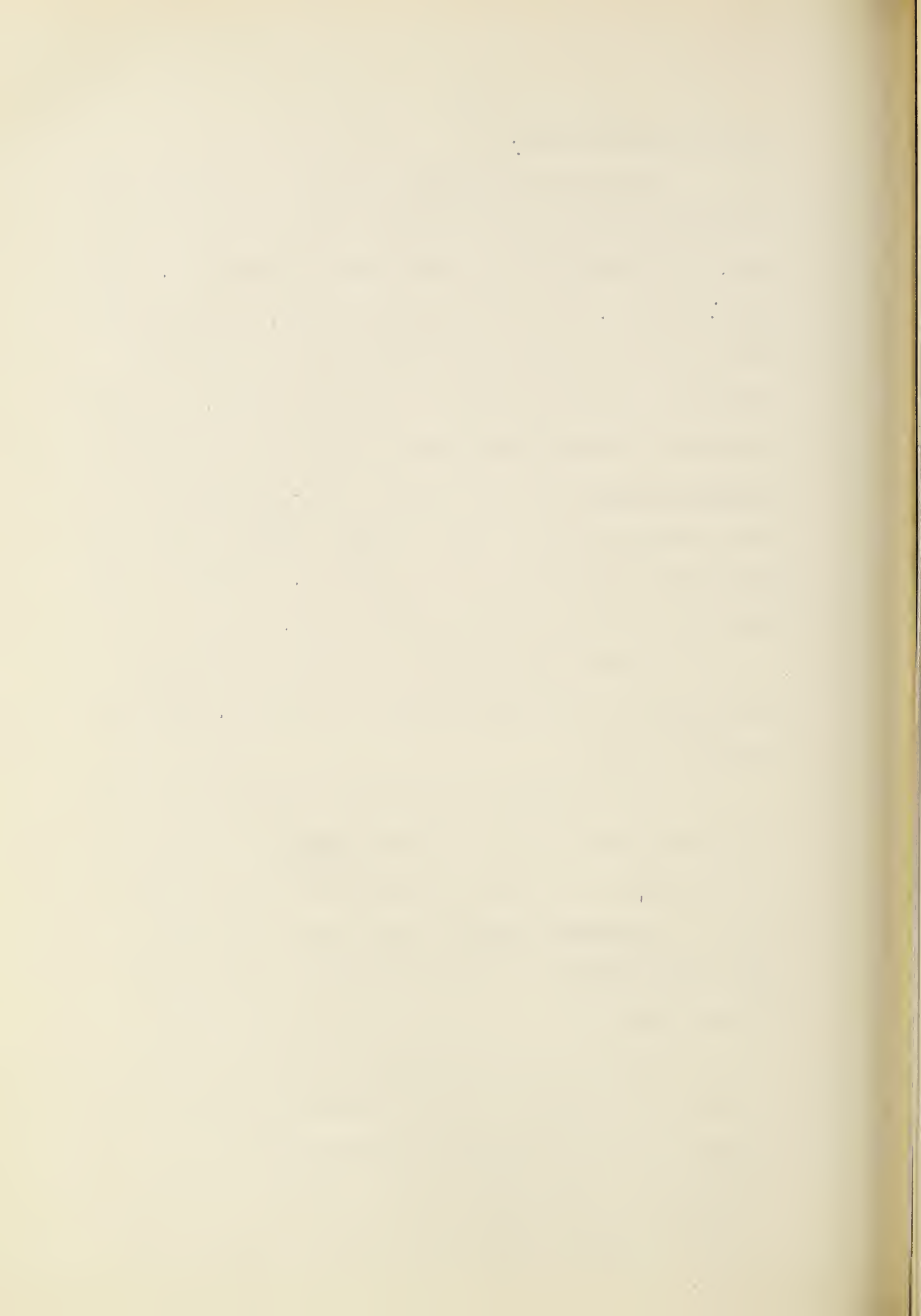
from herbarium specimens.

In the Botanical Library I noticed a new publication: "Kulturpflanzen der Welt-Wirtschaft" by Otto Warburg of Berlin and J. J. van Bomerem Brand of Amsterdam; published by A. Voigtlander. Leipsig. It is an interesting volume, quite upto-date for so far tropical cultures are concerned, but of American agriculture there is a sad lack of striking pictures. A curious mistake has been made in the chapter on tobacco culture, where Nicotiana Glauca has been substituted for N. glauca and it is rather strange to see the large violet-red flowers of this first hybrid being represented as the true tobacco. I think it would interest you to see this above mentioned book.

I have had many talks of late with various men of scientific and of practical standing here in the St. Petersburg Botanical Gardens.

They would like to get from us a few things very well, viz., some cuttings of a good spineless Cuscuta, to be tried as a fodder plant in Turkestan, some seed canes of our hardiest sugar cane (Saccharum Indicum) and some seeds of the genuine Rumex hymenoccephalus to try it as a tanning material producer in Central Asia.

They are willing to send us in return such material as we wish from their seed list and from some live plants that Professor Komaroff just brought back from Ganschutka and of which they will send you the lists. As things go slow here, very slow, I suppose you will receive these lists some weeks from now.



Professor N. Monteverde, who has charge of the Botanical Museum here, would like to obtain a few photos of us for the Museum, like a copy of No. 352, 356, 406, and 518, with the descriptions with it. He is willing to give us in return a piece of trunk of a Saxaul tree from Turkestan and some minor things. In case we are willing to exchange, he will send us a list of what articles he has in duplicate.

I noticed in the Botanical Museum the very interesting sand-binding grass, Eristida pennata, which is one of the most important plants in the world for the Russians, as it enables them to prevent the Central Asian railroad from being blown underneath the sand. I saw some photos how small plantations are started here and there in which Saxaul (Halimolobos) hemispartium (a cytisus-like shrub) and this Eristida play the great role. That these plants may also be of great value to us in the Southwest is my confirmed opinion and it is good that we have come to see these specimens and come to know them in reality.

In the herbarium I studied the very interesting wild species of Amgdalus from Central Asia. There is the A. caucasicus from Bokhara, Samarkand, etc., It is a slow grower, stunted in general, fruits not as large as the ordinary almond, but some forms come very close to it. This species could perhaps be utilized in breeding with the ordinary almond or be used as a stock to graft upon in very dry regions. A. nana is a very bushy species with small fruits and though, with regard to it, is in my opinion, of little economic value; though it could

of seeds and a race of dwarf almonds be observed.

A. tetunilowii is probably a form with very lanceolate leaves of A. sp., occurring in the Altai Mts.

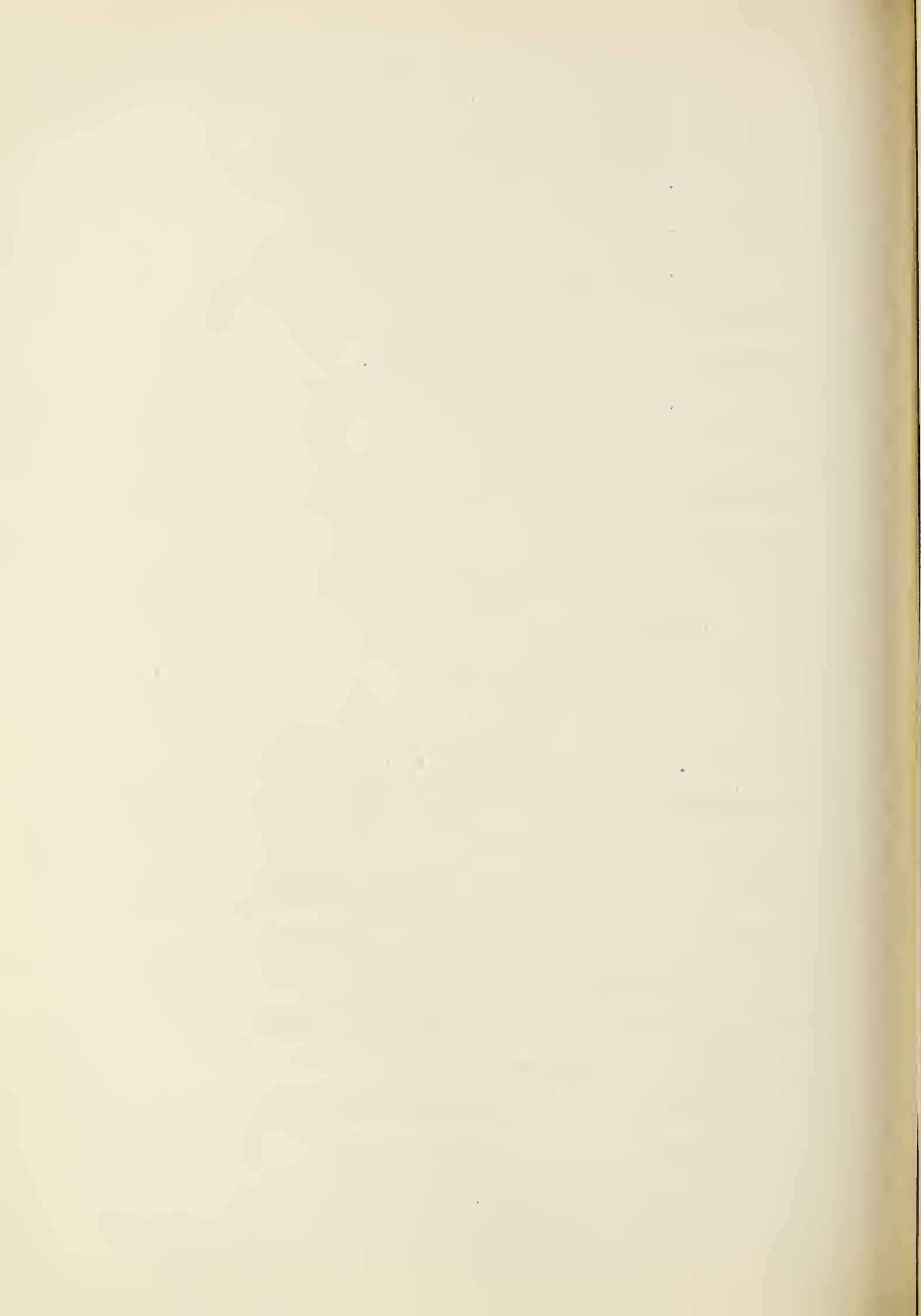
A. spinosissima is a very spiny, thorny species, apparently a desert plant, like some of our own forms in California. Apparently of little value.

A. communis occurs wild and cultivated and I would not be surprised if some forms were not natural hybrids with A. bucharica. On my coming trips I will try to get many seeds and budwood of these above mentioned species, which probably will all thrive grafted on Amelanchier laevigata. I think Professor S. Mason will be interested in the above plants and I finally wish you would let him read this part of the letter.

There are also some semi-desert species of Pirus in Central Asia, like P. bucharica, P. Korshinskyi and P. heterophylla, all three very strange looking fellows and varying in their foliage especially in an unusual degree, seeming apparently like a desert poplar, Populus euphratica, what form of loam will suit them best in their trying climate.

Pirus malus occurs in many forms in Central Asia, some varieties are utterly unlike any one I ever saw and cannot really be P. malus.

Some days ago Mr. C. Bartelsen, the head gardener of the Botanical Gardens here, took me out to the so-called Mariani Garden where the decorative plants are being kept which are used to adorn the Imperial palaces at balls and receptions.



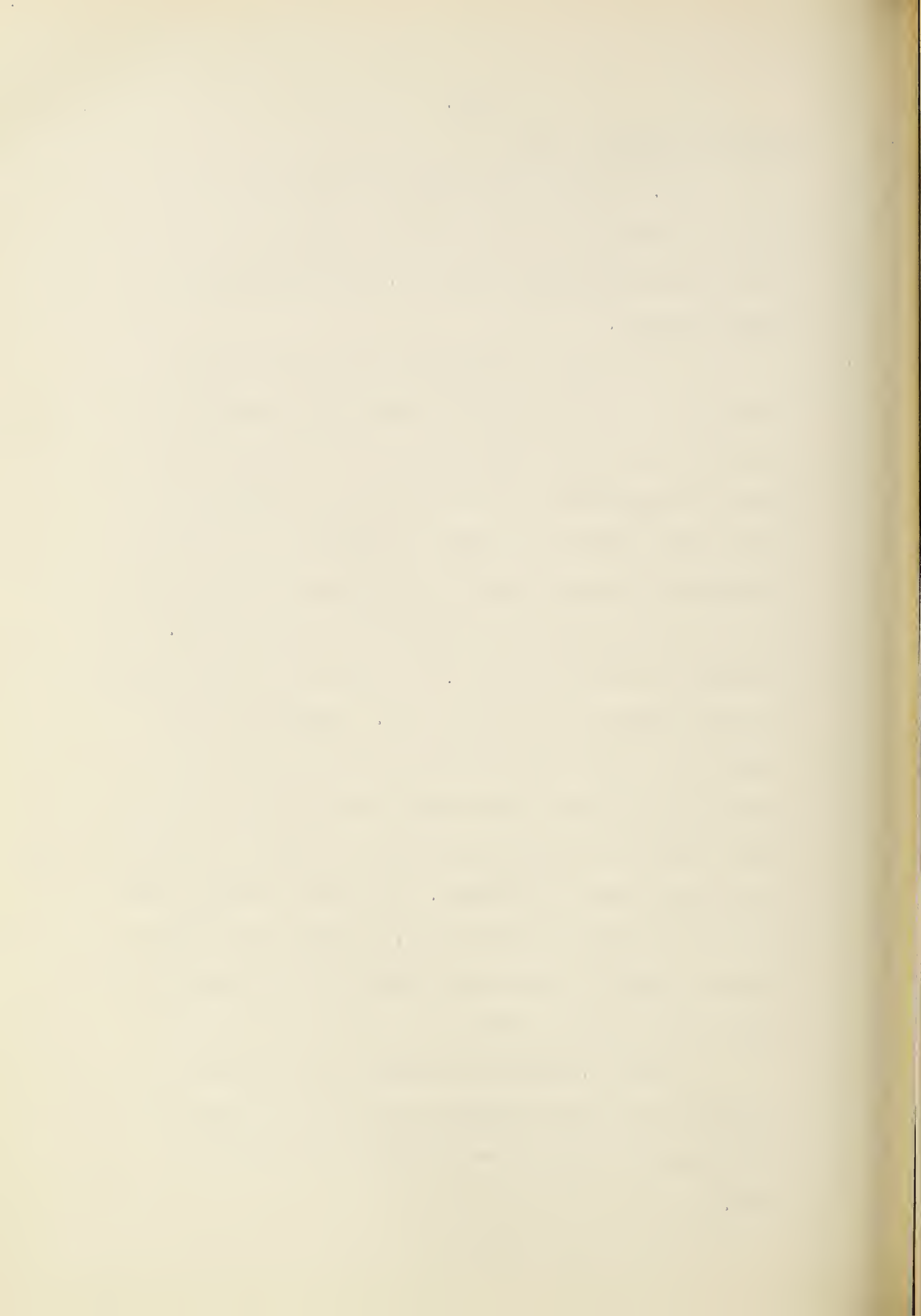
They have some enormous nothouses here. One is several hundred feet long and contains nothing but Laurus nobilis and some minor evergreens; another house has nothing but Eugenia illiptica; a large palmhouse has an avenue of Livingstonia chinensis and Corypha urens, while minor palms are to be seen everywhere. Some of these Livingstonias are fully 30 feet tall, have heavy trunks, but ridiculously small balls of earth, it being a practice to cut off as many roots as possible at the time of transplanting. I really never saw anything like it and in this matter the Russians have acquired a knowledge which we do not possess. One is also surprised at the number of rare botanic plants the Russians cultivate as ordinary house plants. There is, for instance, the Philodendron pertusum (Monstera deliciosa) which is seen in many homes. Cissus antarctica, an evergreen vine which grows even better on the shady side of the house than on the sunny side. This attractive vine is very much seen in windows, sometimes even in shops, between meats and delicacies. Other strange room plants are Hoya canosa, Colocasia antiquorum, Hippeastrum, Cinnamomum Camala and other species of cinnamon. Willarezia grandiflora, Cereus peruvianus monstrosus and various other Cereus and Lamellaris. As the houses here have all double windows and are heated throughout the winter, this fact of growing so many rather rare exotics in Russia as house plants can be explained through the more equal temperatures that exist in rooms here as compared with the great fluctuation in temperature in the ordinary American and Western

European dwellings of man.

Mr. Bartelsen told me that in case we send live plants or cuttings to this garden here, that we best send them through the American Express Co., Ferdinandstrasse 2, Hamburg, Germany.

Now, I will in conclusion state, that matters relating to the issue of various permits have progressed quite well these last days. I spent with a new interpreter three days at the Department of Foreign Affairs, the Bureau for Central Asian affairs, the Police Department, the American Embassy and with some people in the Botanical Garden, and we hope that all things will be settled within a day or two. I never knew that this land was so difficult to live in and that one has to submit to so much red tape. Yesterday we were visited by a police officer and we had to state what our profession was, where we came from, where we intended to go, where I obtained my money and how much we spent, etc., and all things were written down on blue sheets. For what? We do not know! And yet this is an interesting land, for which it is worth to have some troubles, although not willing to have them for much longer than a couple of years.

Well, Mr. Fairchild, as usual the letter has become big and the many items scattered, but with your capable assistants you will be able to get the grain separated from the chaff.



I remain with best of regards to you all,

Yours respectfully,

FRANK H. FRYER.

Moscow, Russia,

January 4, 1910.

Dear Mr. Fairchild:

This is to let you know that I was at last able to leave St. Petersburg, having gotten permission to wear a revolver and be allowed to travel in Turkestan with an interpreter whose name has been noted down by the authorities. We left St. Petersburg last Saturday night and landed here Sunday morning. The season of the year is bad, of course, everything is under snow and ice and I cannot say much about vegetation. Yesterday I called upon Mr. Engel of the firm E. Immer & Co.; this gentleman told me about a new fodder grass from the Samara Government which is a perennial Triticum, which has not the objectionable running rhizomes of T. repens. He also showed seeds of a new species of Cicer with triangular seeds coming from Central Russia and used as a fodder plant by Russian farmers. It is said to produce as much as 500-600 pood of seeds per Hectare, and not needing as fertile a soil as peas. Then, he spoke about a new white millet or proso (Panicum milliaceum) from the Samara Government from which a fine white



flour can be made, fit for baking purposes; also a good red variety of prose from the same Government, also new. He will let me know today or tomorrow whether he can obtain sufficient quantities of seeds of these above mentioned valuable productions.

I also tried to see yesterday Prof. Galenkin of the Botanical Gardens here, but I had to come back today. He couldn't give me much information about various algalia as he is strictly a botanist, but suggested to get into correspondence with Mr. M. S. Bogdan, Krassny Kut Government, Samara, of whom I wrote you already. Then he suggested Mr. Keller, Privat-Docent at the University of Kazan, who is a specialist on plants from the Volga territory; also Prof. Gortschin, Botanist at the newly opened University in Saratof. He also said we may get seeds of rare species of Medicago by going through various seedlists sent out from Russian Botanical Gardens. I also went today to the Agricultural College at Rezenovo near this city of Moscow. I saw Prof. Williams and spoke about getting more species of Medicago and especially about obtaining M. cancellata. He informed me the same as Prof. Galenkin, that there is no good botanist in Sarapta or vicinity and that there is so much snow all over that part of Russia that we won't be able to obtain plants or seeds unless we knew exactly the locality, which of course, we do not. I think as such that we have to postpone our trip to Sarapta until a more favorable season or to get seeds through Mr. Bogdan. I met Mr. Emil Reger,

the head gardener at the Agricultural College who was of great assistance to Dr. Vessey many years ago. He was, however, very much occupied today with a Board of Trustees' meeting and asked me to come back again; I didn't see much of the arboretum as we had a heavy snowstorm yesterday and everything is covered with the "beautiful" for more than a foot.

Prof. Gulaiakoff, the agricultural explorer, who visited us, as you may remember, is still in Germany and Prof. Pavrenko, the specialist on grapes in Russia wasn't to be found, although I have to see the last, as he is said to be the best informed man in Russia about Central Asiatic varieties of grapes. I will try to get him tomorrow.

Now, as I probably won't go down to Barents, I may leave tomorrow or the day after and go straight to the Crimea, then to the Caucasus and from there to Central Asia, where I am not allowed to enter until January 11, 1910.

Well, this news is somewhat more cheery than I have been able to give for a long time, isn't it?

With kindest of greetings also to those in the office,
I remain

Yours respectfully,

FRANK E. SMITH.

Sebastopol, Crimea, Russia,

January 12, 1916.

Dear Dr. Churchill:

Herewith I am sending you by Russian parcel post one package numbered 370-376 and containing 7 separate packages, each having one kind of cuttings in it. We experienced considerable difficulty with the postal authorities here, it being apparently the first time that cuttings of plants had been forwarded by rail. I hope they will deliver the package in good shape, though they declined to have it valued and would not or could not tell us which way it would go to Washington.

I suggest to forward this material to Chico, for the climate here corresponds very much to that of the interior valleys of California. The thermometer goes up to 115° in the shade here in mid-summer and every so many winters it goes to even 10 b low zero. There is also very little rainfall in summer and the snow in winter doesn't remain long on the ground.

I enclose the notes in duplicate belonging to this shipment, but will have a few remarks yet about a few things.

No. 370. Lorus alba vestigata is a good pyramidal tree for California, Southern Utah, Arizona, the San Antonio region (Texas) and for similar localities. It is especially suited for small gardens and cemeteries.

No. 371. Galix sp. var. aurea can be grown in similar localities as the preceding one and can be kept in gardens as an ever-ready trying material.

No. 372. Pirus sp., apparently P. Salicifolia, may prove to be a fine stock for pears in the hot-summered South-western sections of the United States. I have not been able to get any seeds as yet, but may still succeed in obtaining a few.

No. 373 is an ornamental form of the above, fit for small gardens.

No. 374. Crataegus sp., apparently C. orientalis, can also be tested as a stock for pears in the Southwest. In case we haven't got any Crataegus stock at Chico, Mrs. Deehan at Dreshertown, Pennsylvania, or the M. H. Moon Co. at Morrisville, Pennsylvania, might graft a dozen plants for us as a trial as we will have to have them grafted or bud in the future some of the improved varieties of the large fruited Chinesehaw (Crataegus pinnatifida) with which our propagators were so unsuccessful in the past.

No. 375 & 376 are of minor importance and need no comment beyond their notes.

Then, I sent you last night by registered sample post 4 small bags. Three of them contain entomological specimens and are marked such. I kindly wish you would turn them over to those interested in them. There are many insect pests here in Southern Russia and I hope I may find something important yet.

For facilities sake, I will just mention the contents of the three bags with entomological material:

Caterpillar's nests on apparently a specie of Prunus near Sebastopol, Crimea, Russia, January 9, 1910.

Scales on wild roses, collected in the hills near Sebastopol, Crimea, Russia, January 11, 1910. (3 samples).

Scales on apparently a specie of Prunus, collected in the hills near Sebastopol, Crimea, Russia, January 11, 1910.

Then, I would like to make a suggestion in regard to such material. Up to the present you have been kind enough to send me a copy of the lists of determinations of insect material I sent in, but as I haven't got enough brains left any more to take in all those difficult names, I wish you would discontinue sending me such determinations, but instead to let me know whether I found something rare or important and whether the entomological authorities want me to be on the lookout for something special.

Now we come to bag No. 4 of the registered samples. This contains a sample of the Cicer of which I wrote you in my letter from Moscow and which sample Mr. Engel of the firm E. Immer & Co., Seedsmen, in Moscow, gave me. Mr. Engel claims the plant gives from 500 to 600 pood (a pood equals 40 pounds) per Hectare and grows on worse soil than peas are able to thrive. Mr. Engel has a few hundred poods of this Cicer for sale and offers them at 3.25 roubles per pood. He strongly recommends us to make a test with it in the Middle East and says the Russian farmers of certain districts in Central Russia consider it a favorite cattle fodder.

Mr. Engel also promised to send me a few samples of millets, but he either didn't do it or the things got lost. Well, anyway he has a small quantity of a very superior white millet (Panicum miliaceum) from the Samara Government of which he has promised part already to other parties in and out of Russia. The very highest amount he could supply is 100 pood. The cost is 4.75 roubles per pood.

Then Mr. Engel also has the red grass from Brenburg, of which he gave Professor Hansen some a few years ago, while the variety wasn't fixed yet. Now, however, it is true and he recommends it very much for the drier regions of the United States. This grass gives very large harvests and needs but little rainfall. A few hundred poods are to be had at 2.60 roubles per pood.

Then, the newly discovered Eriticum cristatum, a perennial fodder grass from the Samara Govt. not making the objectionable running rhizomes like E. repens has the habit of doing. Mr. Engel stated that the plant is a very good fodder grass for semi-arid regions and makes a good stand even in a dry summer, while other grasses fail to grow more than a few inches. There is only a limited quantity of seeds at hand and part of it has been sold already to Almorin, Ladrieux & Co. Mr. Engel could spare us 50 poods in case we let him know before February 10, 1910. After that date he cannot promise us any more until next year. The price is high; 11 roubles per pood.

As I myself do not feel like ordering any large quantity at my own risk and as some of these mentioned seeds are still enroute to Moscow, so that I couldn't see them and buy small quantities, I suggest that you have a talk with various gentlemen interested in these matters and to send a wire to Mr. Engel before February 10, 1910, giving him the quantities of seeds of Oicer, white cross, red cross & Triticum you want him to reserve for us.

Then, Mr. Engel informed me that this year they are offering a new variety of Helianthus annuus of which the seeds are coated with a hard, silicateous substance, so that the beetles which do such an enormous damage or late in Russia to the sunflower seed crop find it impossible to bite through these seed hulls.

They also have a new variety of cabbage for sale this year, obtained from Bulgaria and proving to be very fine for the South of Russia, giving a good stand where ordinary kinds do not grow well and needing much less space than the common cabbages. He suggests to give it a trial in the South as an early cabbage.

The two above things are listed in his catalogue for 1910. Then Mr. Engel informed us to be thought it strange that a bill for seeds of Vicia villosa dated August 16 and sent to our office had not been settled yet. Wouldn't you please look into this matter and see what is the cause of the delay? It is never very pleasant to have to hear a remark about such

matters while in a foreign country. I informed Mr. Engel that his letter might have become lost and suggested to send in another bill, but that I also would inform you about this matter.

Last Sunday morning, January 9, 1910, we arrived here in Sebastopol and found it quite cold, 18° Fahr., and everything covered with snow. Yesterday and today, however, the weather has become mild, (40° Fahr.) and the snow is rapidly melting. We left Moscow in the evening of January 6 and it was 51° Fahr. and although we raced down South for 2 days and three nights (trains go slow in Russia) the cold waves kept on following us all the time. We saw by telegram that it was about 30° (50° below zero Fahr.) in the country around Moscow on January 7. Well, the climate here isn't at all as mild as I expected it to be. There are very few evergreens to be seen in the parks. Larix orientalis, Juniperus communis, some young Juniperus horizontalis; on scattered spots of Pinus japonica or a struggling Pinus lambertiana. That is about all. As deciduous shade trees the Corylus japonica and Quercus petraea are best, while alders, plus the Salix glauca are coming next.

I have been searching along the cliffs for various Medicaginos, but as yet I haven't seen a single one. We are in negotiation, however, today with some cartmen to take us down to Yalta by mule stages, so as to enable us to collect various things. As yet they want scandalously high prices, it being Russian New Year season, but we will not let some more reason-

able rates. I shipped my "lost records" & some clothing to Yalta by U.S. but the country is too full of good things to go to that way by ourselves. You have really no idea how much behind the times the people were here. Yesterday it took me two hours in the bank to get some money on a letter of credit. I even had to get my passport to show them I was the real one. And in the Post Office they didn't know Washington was the capital of the United States. They thought it was New York. Isn't that lovely? One certainly doesn't have to go to China to find such blissful ignorance.

Well, if all things go well, I will depart tomorrow for Yalta. That will be about a 4 or 5 day's journey by cart. From there to Nikita to collect the lovely olives and other interesting things and then across the Black Sea to Turkey; from there to Soukhoum Ale (a very fine historical town and harbor) and then to Batumi, from where I hope to sail a whole lot of things.

To insure the aforementioned packages reach you in good condition, I conclude with best of regards also to all in the office.

Yours respectfully,

FRANK L. MEYER.



Yalta, Crimea, Russia,

January 18, 1910.

Dear Dr. Fairchild:

Last night we arrived here after a four days' trip by wagon from Sebastopol. I found several Medicagos, viz., seeds of about 4 annual species and roots of apparently two perennial ones. I will ship these roots by the earliest mail. We had quite some bad weather on the road, hail and rain. Here in Yalta it is delightful, however, Goodbye!

Yours respectfully,

FRANK L. WHEELER.

Yalta, Crimea, Russia,

January 21, 1910.

Dear Dr. Fairchild:

Yesterday and today I have been sending you 19 packages by registered Russian sample post. They are marked as follows:

377	one package	Botanical specimens, two packages.
378	" "	Entomological " , " "
379	" "	Seeds four "
380	" "	Pathological " one "
381	" "	" " " "
382	" "	" " " "



383 & 384	one package	pathological specimens, one package
385	" "	" " " "
386	" "	" " " "
387	" "	" " " "

I enclose herewith in duplicate all of the cards belonging to them and trust they give most of the information desired.

I would like to hear how the Medicago roots have fared after their long journey and which packing medium proves to be the best. I am especially interested in the sawy cypress shavings as a material to pack roots in. Mr. Kane claimed it to be mould-free and if so, tropical plants even could be shipped in it. (Packages 377, 379 and annual Medicagos were treated with it.)

Packages No. 382 & 385 I packed in moss that can be locally obtained here in the Crimea. It is not at all good, but Sphagnum is simply not to be had here. I also would like to know whether it had damaged the contents through its moulding properties.

The contents of one of the two packages with Botanical specimens are some annual Medicagos from near Aloupka, which ones I expect, however, to be found dead upon arrival, one Ononis and one little plant I do not know as yet.

The other package contains: One red fungus on a wild pear from Maidari, Crimea, Russia; one red cup-shaped fungus on a stick of dead wood from near Livadi, Crimea, Russia. I kindly wish you would send these two fungi to Dr. W. A. Murril

of the New York Botanical Gardens, who has requested me to send him any fungi I might collect on my travels. Further contents are some strange Algae from a dripping rock near Irlikinesh, Crimea, Russia. Do you know of any specialist in the Smithsonian or wherever else who might wish them. Then there are some shells in it of land snails; also for some specialist; lastly there are fruits and branches of the interesting wild pear here (Pyrus salicifolia) to facilitate Dr. Skeels in his determination of Nos. 572, 573 and 1208a.

The two packages with entomological material contain:

Scales on Fraxinus sp. near Aloupka, Crimea, Russia. (3 samples)

Caterpillars' nests on Pyrus salicifolia. Balaklava, Crimea, Russia.

Scales on Cornus sp. Balaklava, Crimea, Russia.

Strange cocoons of mud on Pyrus salicifolia near Baidari, Crimea, Russia.

Scales on Rubus sp. near Aloupka, Crimea, Russia.

Scales on Laurus nobilis, near Aloupka, Crimea, Russia.

Scales on Federa Helix, near Livadia, Crimea, Russia.

Caterpillars' eggs on Rosa sp. near Aloupka, Crimea, Russia.

Caterpillars' eggs on Caragana pygmaea, St. Petersburg, Russia.

Wasp cocoon, near Baidari, Crimea, Russia.

In the one package with entomological material we have the following:

Strange galls on wild rose. Balaklava, Crimea, Russia.

Galls on female blossoms of Fraxinus sp., near Aloupka, Crimea, Russia.

Galls on Crataegus sp. near Baidari, Crimea, Russia.

Galls on Ulmus sp. (very large ones). Balaklave, Crimea, Russia.

In the four bags with seeds we have: two filled with berries of the very beautiful Juniperus excelsa; one bag with valuable Leguminosae, like 1201a, 1202a, 1203a, 1204a and 1205a, which are annual Medicines of the Crimea; it took us three (interpreter, assistant and self) nearly a day to pick all those seeds from the wet soil. I gave those alfalfa names with question marks as I am not positive about they being rightly determined by me. I suppose our botanists in Washington will have to look them over with comparing material, which I don't have here. No. 1206a is probably a Lotus and No. 1207a a Coronilla sp., both of them may be of value as fodder plants. The last bag with seeds has for contents: 1208a, Firus salicifolia, of which I sent scions from Sevastopol under Nos. 372 and 373; 1209a, Malus baccata from Bertchensk; 1210a, Malus baccata x M. prunifolia; 1211a, Ribes petraeum; 1215a, Rosa gallica hybrida. All these four numbers are for the northern sections of the United States and not be propagated in Washington or at Chico. No. 1212a, Cercis siliquastrum; 1213a, Jasminum sp.; 1214a, Berberis sp.; and 1220a, Juniperus excelsa, are intended for the mild-wintered, hot and dry-summered regions of the United States and would find at our Chico garden a good place of propagation. They should not be kept at Washington.

I have some herbarium material of Juniperus excelsa, of which some is also intended for Professor Sargent. I will

send it, however, from Astoria as freight, as it is too bulky to send by mail from here.

I haven't been able as yet to go to Nikita to get cuttings of the hardy olives, for not only that we had to clean and pack seeds and plants, but my assistant was sick for three days, a big Russian holiday came in between, on which day every shop and office was closed and today we simply were delayed with cold rain for nearly the whole day. Tomorrow we hope things will go better and then I will send you some more material.

Trusting all this aforementioned material reaches you in good condition and with best of greetings, also to those in the office, I remain .

Respectfully yours,

FRANK L. LEYER.



Yalta, Crimea, Russia,

January 24, 1910.

Dear Mr. Fairchild:

Herewith I am sending you by registered Russian sample post eleven packages, all containing olive cuttings. These packages are numbered 388 - 398; Nos. 388, 389, 390 and 391 are packed in damp swamp cypress shavings, while 392, 393, 394, 395, 396, 397 & 398 are packed in damp sphagnum. I would be pleased to hear which packing medium turns out to be the best.

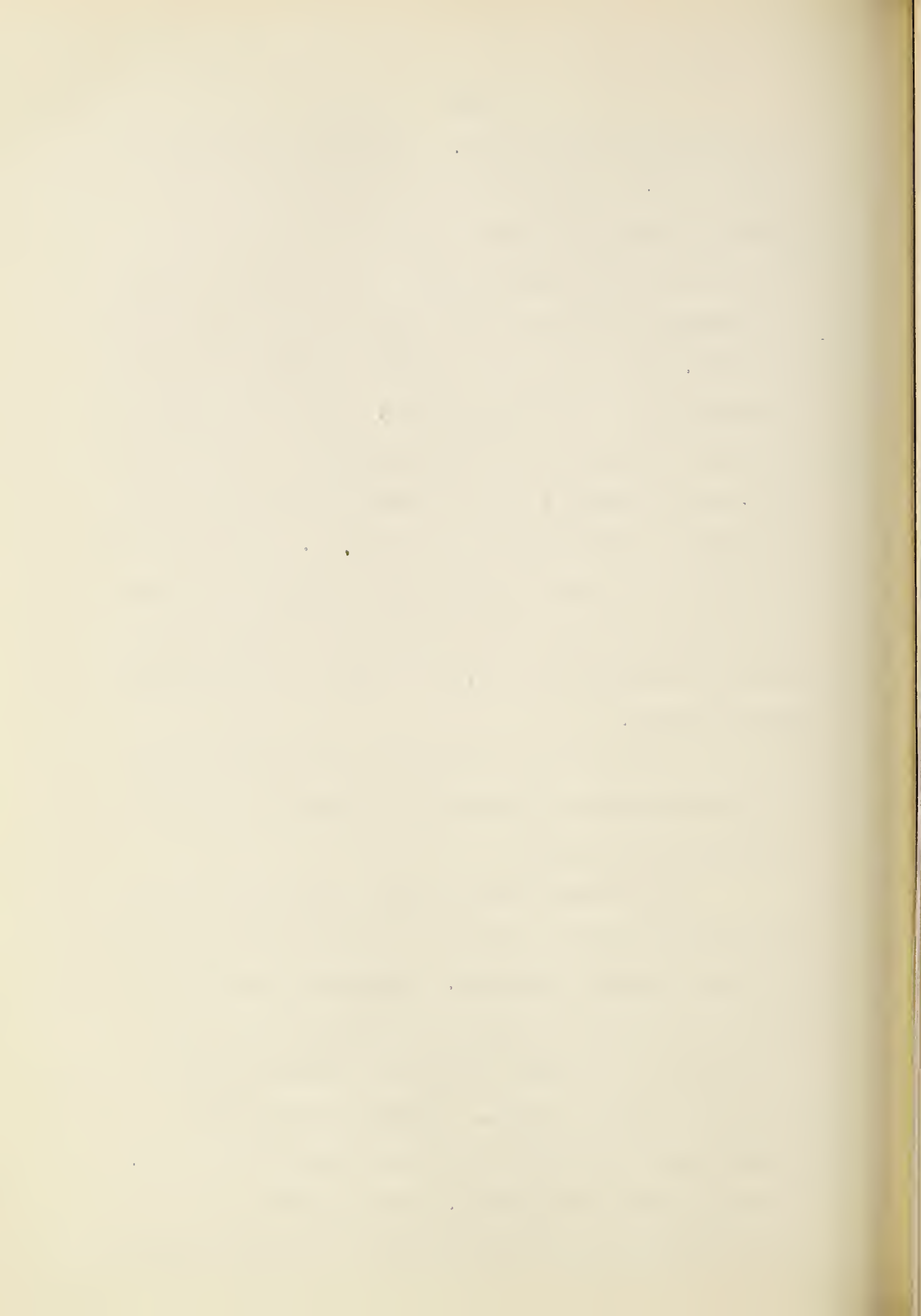
A day or two ago I also sent you by registered sample post one bag marked seeds. This bag contains the Nos. 1216a, 1217a, 1218a, 1219a, 1221a, 1222a, 1223a, 1224a, 1225a, 1226a, 1227a, 1228a, 1229a, 1230a, 1231a, 1232a, 1233a, 1234a, & 1235a. Of some seeds there are only very small quantities and I would suggest not to enter them in our inventory as they are not worth all the labor connected with such entries. All these seeds should be sent to our garden in Chico, where climatic conditions will suit these plants better than the Washington climate.

The olive cuttings, too, ought to go to Chico, in case propagation facilities there are in shape for them. There are many very small cuttings among this olive material, but as there is only one variety of each of these olives in the Botanical Garden at Yikita and as some of these trees have really no propagating wood on them at all, it was the best I could do and trust that our propagator will bear these facts in mind

when criticizing this shipment. There is a chance that the olive cuttings and some Medicines and other material that I have been sending get frozen on the road, but the postal authorities are so frightfully ignorant here, that it is next to impossible to obtain any information from them about routes of travel. Here in Kaiti they thought Washington was somewhere in Germany; so I needn't say any more! These olives, however, have stood temperatures of 10° below Reaumur or about 1° below Fahr. and are packed in well, so I think they will be able to stand some low temperature, while in transit. In New York they may experience as great a cold as here in Europe and I really have to trust to good luck in this matter, or select another season for shipping, which is, of course, out of the question for the present.

I enclose in this letter all of the notes, relating to these aforementioned shipments, in duplicate and trust they will reach you all right.

We are experiencing some very bad weather these last days, nothing but rain, just the kind of weather one experiences in winter in Central California. Last Saturday, while getting the olive cuttings in Likiep we got soakingly wet and today while trying to photograph several very interesting items we had to run again for shelter. We did not succeed today in getting some grape cuttings, as the viticulturist was absent. Tomorrow, perhaps. We found Mr. Theophil Kaloids a very pleasant man, he is the head gardener of the Imperial Botanical



Garden at Nikita; Prof. Sherbakoff, the director, was also quite very accommodating to us. He allowed me to take photos and clip the olive cuttings. Neither of the two, however, is much acquainted with the lesser wild native flora and on the subject of Medicago and other native leguminous plants one has to turn to one's self. Both the two aforementioned gentlemen are very much interested in the good things America has to offer them and want very much to exchange with us. Prof. Sherbakoff will send you his list of exchange material and Mr. Kalaida will make it a point to see that we get some seeds of Pistacia natica from him next year. They want very much some of our harder Citrus hybrids. In case you could send some young plants by sample post to them would be appreciated very much and be the beginning of further exchange. (I do not think it would be wise to attempt to send any plants to them by parcel post as the Russian laws are very strict on the introduction of live plants from abroad and as Russian Customs house officials are remarkably ignorant about them and will delay or destroy any shipment.)

There is a small, one-room museum here in Yalta, belonging to a mountaineering club and the local fauna and flora is represented there more or less. In the very incomplete herbarium I found the Medicago I sent in under No. 1202a as M. denticulata, labeled M. minima. No. 1207a is labeled Coronilla cretica. The Ononis in the package with botanical material, as Ononis columnae.

Tomorrow I hope to send some more material and then

I will depart for Nagri in the Caucasus from there over Souchorin Kale with its rich Botanical Garden to Katorin where I expect lots of mail and then on to Tiflis. Time flew quickly while collecting, describing and shipping and one finds that to do a region somewhat thoroughly one really has to make it weeks or even months instead of days.

I conclude with best of regards, also to all those in the office.

Respectfully yours,

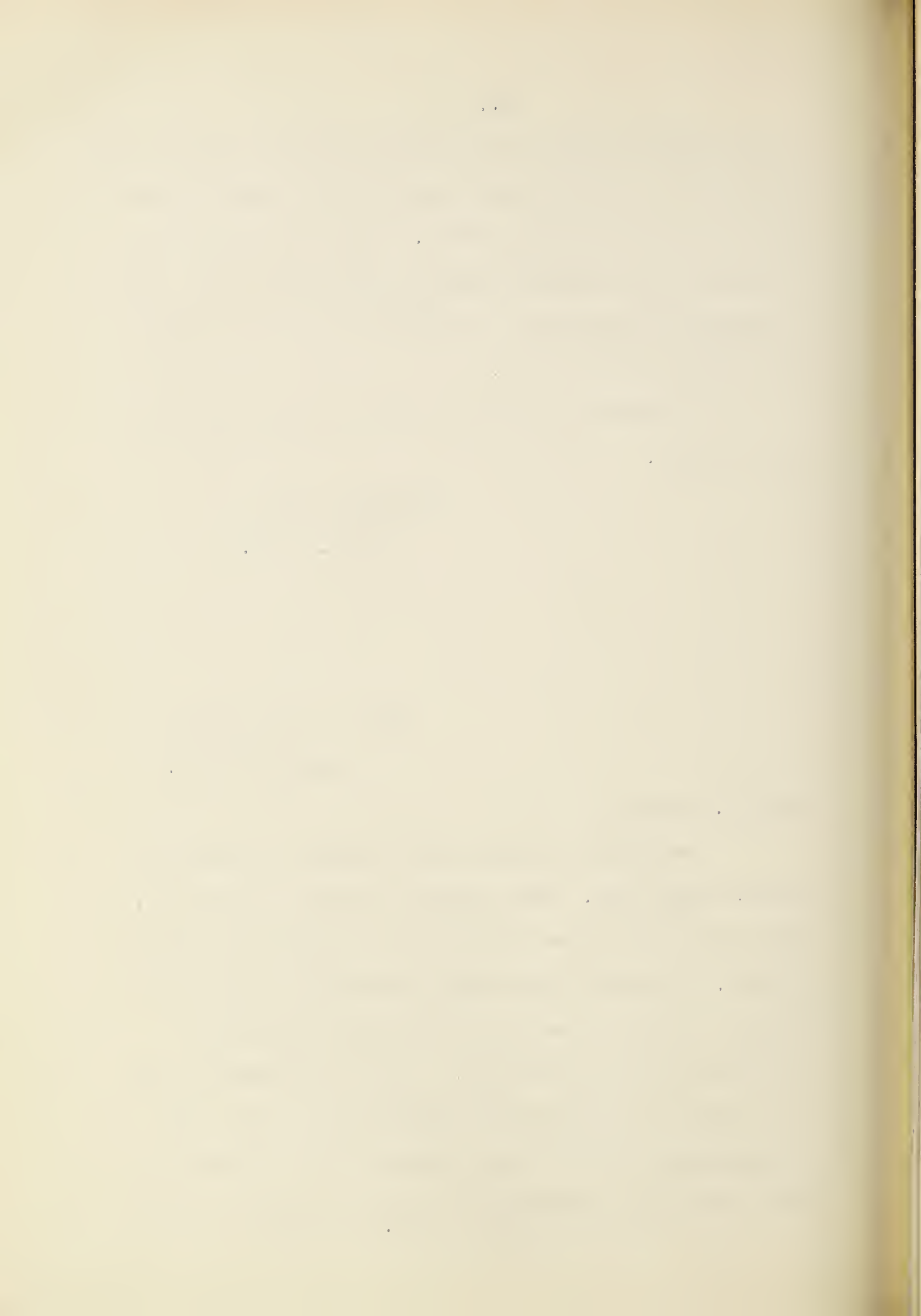
PAUL H. RAVEN.

Yalta, Crimea, Russia,

January 26, 1910.

Dear Mr. Fairchild:

Herewith I am sending you 5 packages by registered Russian sample post. These parcels are marked 399, 400, 401, 402, 403 & 404. I also enclose the inventory cards belonging to them. In case the plants reach you in good condition, I suggest to forward them all to Chico, where they will do better than in Washington, D. C. I also had expected to send you some grape cuttings of some rare varieties, but I found it impossible to obtain them, as they had either disposed of them already at the Experimental Vineyard at Nikita or didn't



possess the plants even, though I had been informed in Moscow that they were here.

We also tried to have our parcels forwarded via Marseilles, so as to minimize the danger of having them frozen on the road. The post office authorities, however, informed us they couldn't do so as it was against their rules, but we might try it with a private shipping company that makes connections with various steamers that run from Odessa through the Bosphorus and the Mediterranean to Marseilles. That kind of shipping, however, is too risky here in this country and I decided rather to entrust them to the Russian post office and have these parcels go via Hamburg. How future shipments will be treated, especially from Turkestan, is going to be a pretty problem for us. The Russian post office officials are remarkably ignorant about anything connected with foreign countries and especially with America and it often takes a conference of three or four of them before they decide to accept my parcel. Well, today we have been packing in our baggage and there is quite a lot of it, I assure you, and tonight we have to leave at 9 o'clock for Tagri, nearly a three days' journey along the shores of the Black Sea; the weather, however, is fairly good and the moon nearly full and we don't expect any storms and resulting "mal de mer."

I remain, with best of regards,

Respectfully yours,

FRANK M. WYER.

Agri, Caucasus, Russia,

February 2, 1910.

Dear Mr. Sairchild:

Herewith I am sending you by registered sample post 4 packages numbered 406, 411, 412 & 413. By parcel post one package numbered 405, and by ordinary sample post one package numbered 419.

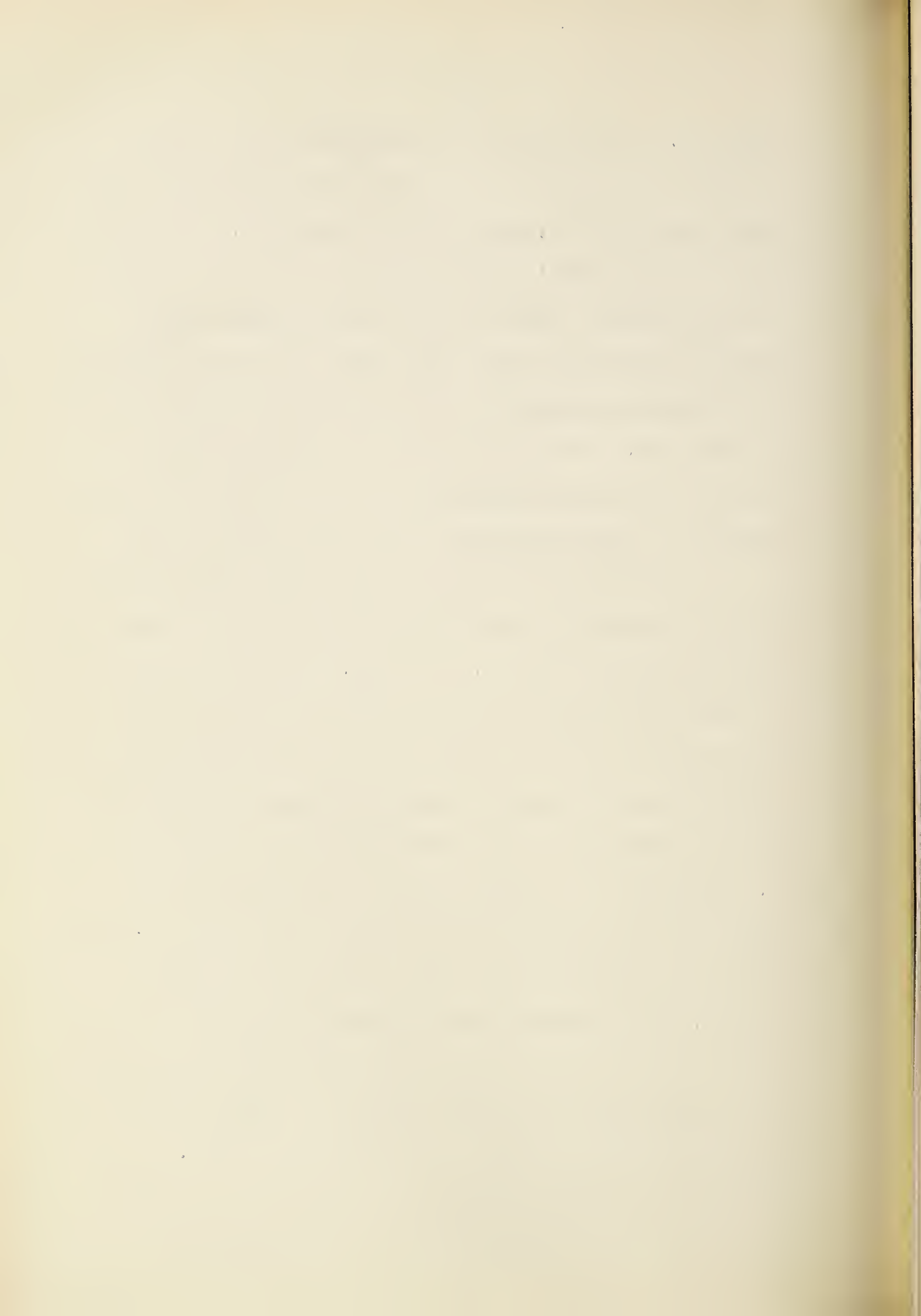
The inventory notes belonging to this shipment are herewith enclosed in duplicates.

As usual we are having difficulties with the local postal authorities. Here they are informing us that only dried or preserved plants can be sent to America from Russia. After some talks, however, they decided to accept the lighter packages as samples. The heavier ones, though, we cannot send from this place as samples, so I was advised to put them together in one parcel and then they will go. Now those heavy registered samples from Yalta will be treated again is a real puzzle to me. According to the postmaster here, the man in Yalta who accepted them will have to pay some fines; I myself expect, however, they may send these parcels to St. Petersburg and there they will be left until all the cuttings and plants are frozen or dried out. It is real sad to find out, how very little the so-called authorities here know about their own business!

We are here in a delightful region. The Black Sea is at our feet and towering mountains rise splendidly right

back of us. Their tops are snow covered, but in the valleys one finds masses of wild cyclamen, snow drops, Nelleboris niger, Primula veris, violets, scillas, all in full bloom. Of economic plants one finds many important ones here in their wild state, like Olea europaea, Castanea vesca, Punica granatum, Laurus nobilis, Fernus laurocerasus, Ficus carica (very large specimens), Boxwood (Buxus sempervirens) (also here and there as regular trees), hazelnuts, etc. As undergrowth the beautiful large-leaved Butchers broom (Ruscus hypoglossum) is seen everywhere, while the Caucasian Ivy (Hedera colchica) wraps tree trunks and rocks.

This town here has been started by His Highness, the Prince of Oldenburg, to whom I brought the greetings of Prof. Fischer von Waldheim from St. Petersburg. We spoke a couple of times about various cultures that may be of importance to this region; the Prince is very anxious to obtain from us our hardier strains of sugar cane (Baccharis nardus) and our large varieties of peanuts. On the first Forest you already from St. Petersburg, as the authorities in the botanical gardens wanting it; the last one, however, we must send to the Prince direct, a few pounds in sample bags, so he can see how large they are. As His Highness speaks the modern languages very well, we can write him also in English. The Prince has promised me two armed guards to go with us from here to Soukharin. Well as you may know, travel is not altogether safe here. Gardens are not common, but wild-figs are everywhere of regular occurrence and since we are not little ones, it would be



almost unwise to proceed without some protection. We shipped our non-wanted baggage already today to Souchorin Kule and expect to go tomorrow ourselves on foot, a four or five days' journey again. There have been some belicages described from near Souchorin Kule and I expect to find them. In Souchorin itself there is a forest between a river where some large kan-boss are being cultivated and where we probably will endeavor to obtain seeds of some native trees and shrubs.

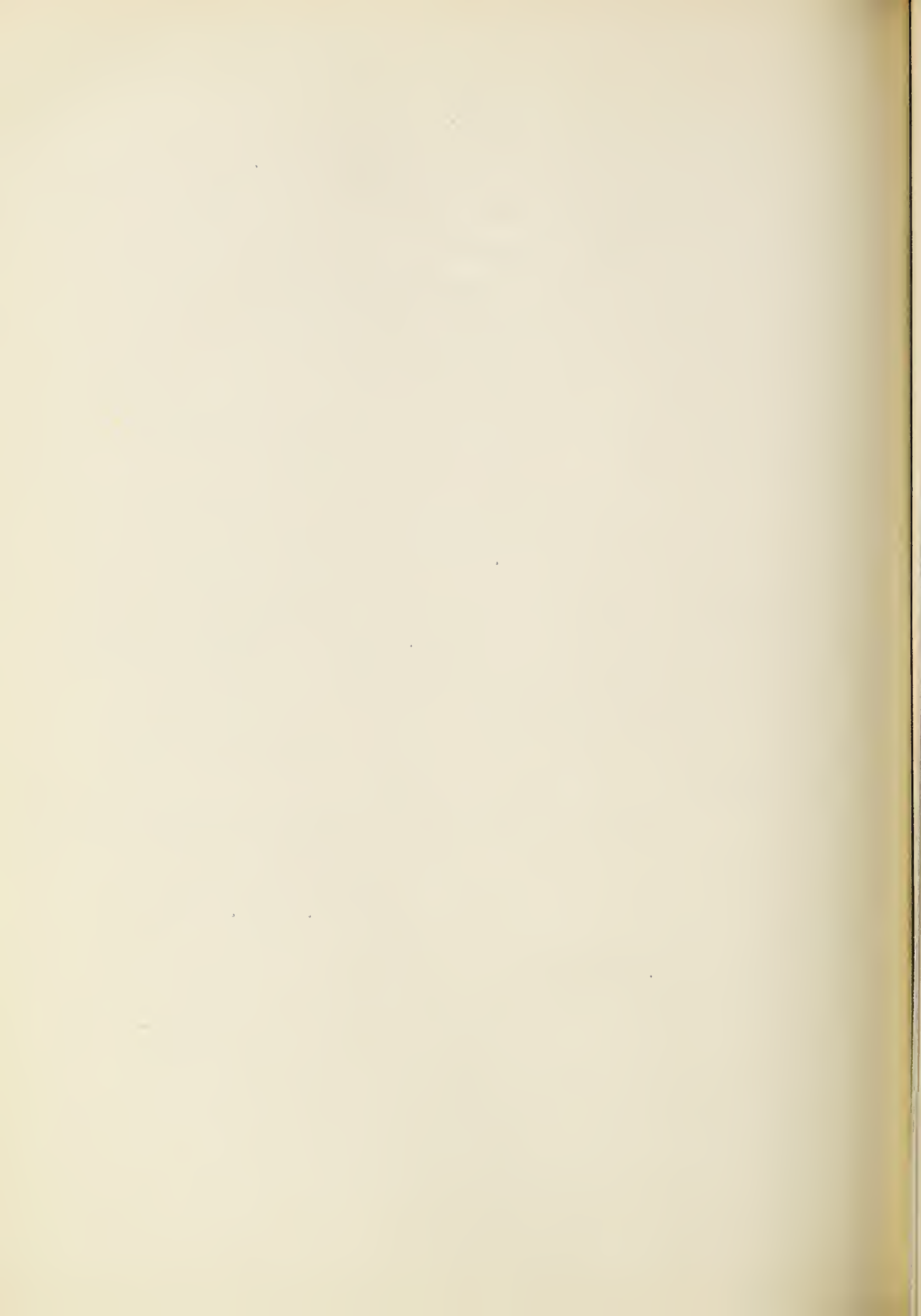
In regard to the Yuccas that occur here and which I am examining under nos. 411 & 412, I may say that they will probably not stand any great frosts, for Eucalyptus even remains here out in the open, while Quercus indivisa, Chamaecyparis and even Phoenix canariensis are planted in the public park.

Well, I expect lots of mail in Saigon, for I haven't received a letter now for over a month.

With best of regards, also to those in the office, I am

Yours respectfully,

FRANK T. BENT.



Sorochoun Dale, Caucasus, Russia,

February 14, 1910.

Dear Mr. Churchill:

Herewith I am sending you 5 small parcels by Russian registered sample post. Three of them contain seeds of which I enclose herewith the inventory notes. Two of these parcels contain entomological material of which I will give a short list on the next pages.

Of these seeds I sent, I wish the very greater part would be sent to our Garden in Chico as the climate there will suit the majority of plants coming from these parts of Russia. The Turkish tobaccos Nos. 1238a, 1239a and 1240a are, of course, exempt from this. The olive seeds, No. 1236a, ought to be given especial care as some very hardy varieties may appear among them. Of the Crataegus, Nos. 1241a, 1242a, and 1243a, Professor Sargent might wish perhaps to have a few seeds. The roses, No. 1244a, 1245a, and 1246a, might perhaps be valuable as a stock for greenhouse roses, for I was informed by a few people here that they are much easier to bud and graft than Rosa canina and that they make the scion grow very much faster. Nos. 1244a and 1245a may be forms of Rosa semperflorens. No. 1248a is probably a form of Ribes Sorbus. The fruits of the size of olives are of a very pleasant sour-fresh taste. No. 1253a, an umbelliferous evergreen shrub, possesses value as a cover plant and hedge material near the seaside, in mild-wintered regions; From Satsum I will send a few dried branches for identification.

In the two bags with entomological material there are:

Scales on Cupressus toryloea, Soukhoum Kale, Caucasus, Russia.

(cultivated). February 9, 1910.

Scales on Gleditsia triacanthos, Soukhoum Kale, Caucasus, Russia.

(escaped & naturalized). February 10, 1910.

Scales on Prunus sp., Soukhoum Kale, Caucasus, Russia. (cultivated)

February 10, 1910.

Scales on Prunus laurocerasus, Soukhoum Kale, Caucasus, Russia.

(cultivated). February 11, 1910.

Scales on orange tree. Soukhoum Kale, Caucasus, Russia. (cultivated)

February 11, 1910.

Scales on Ligustrum coriaceum, Soukhoum Kale, Caucasus, Russia.

(cultivated). February 9, 1910.

Scales on Cycas revoluta. Soukhoum Kale, Caucasus, Russia.

(cultivated). February 11, 1910.

Scales on Nerium Oleander, Gagri, Caucasus, Russia. (cultivated)

January 31, 1910.

Scales on Citrus aurantium, Gagri, Caucasus, Russia. (cultivated)

January 31, 1910.

Thrips on Viburnum odoratissimum, Gagri, Caucasus, Russia.

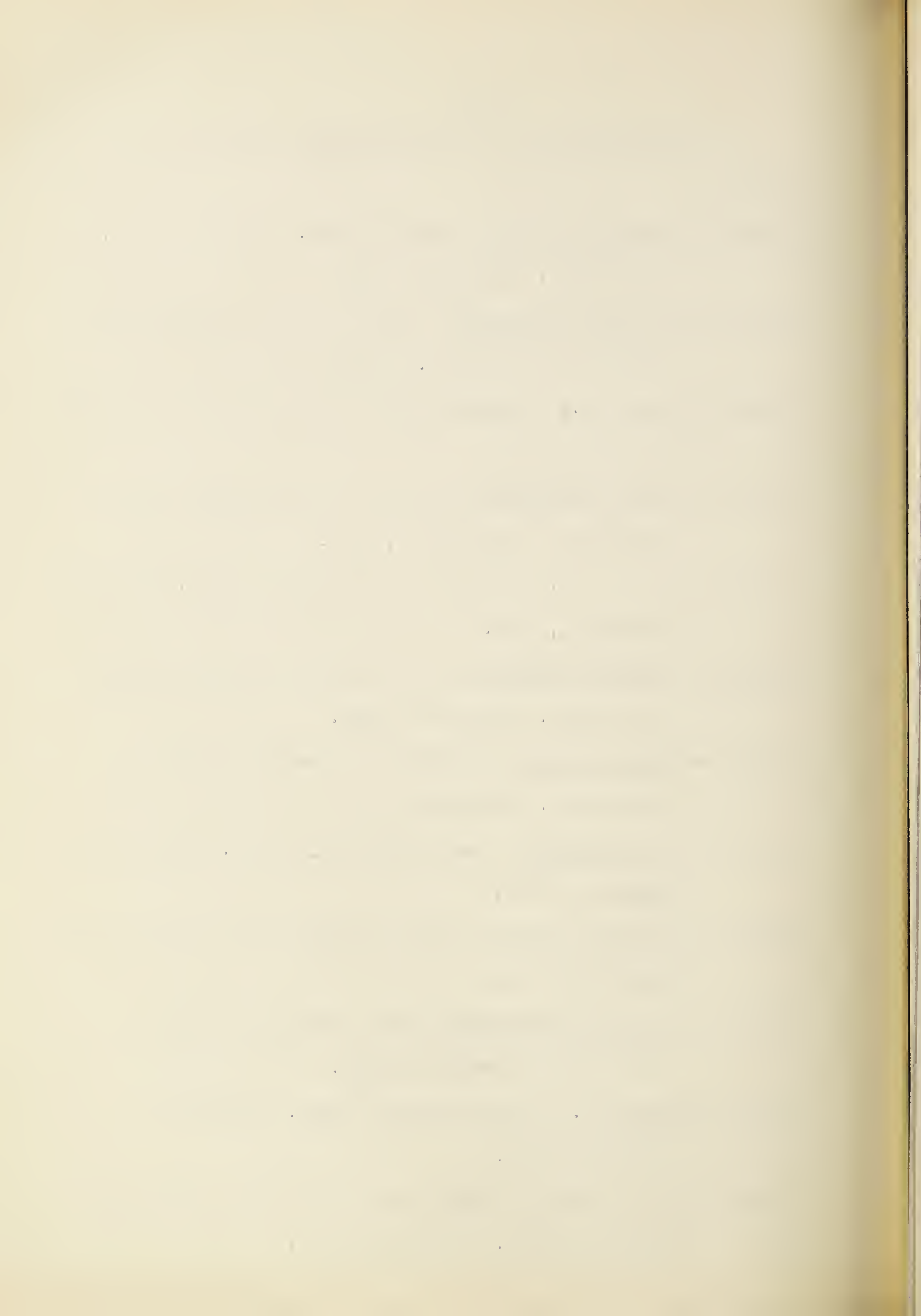
(cultivated). January 31, 1910.

Galls on Populus sp. Orianda, Crimea, Russia. (cultivated)

January 25, 1910.

Galls on apple (caused by woolly aphis) (cultivated). Novai Avon,

Caucasus, Russia. February 7, 1910.



Calls on Ilia sr. Near Chirig, Caucasus, Russia. February 7, 1910.

Well, that is about all I have to say on the shipped material. In another letter I will tell you some about the ups and downs of our journey.

With best of greetings, I am

Yours respectfully,

FRANK M. MEYER.

Batoun, Caucasus, Russia,

February 22, 1910.

Dear Mr. Fairchild:

Yesterday I sent you, after the customary troubles with the post office officials here, 23 packages of plants and scions.

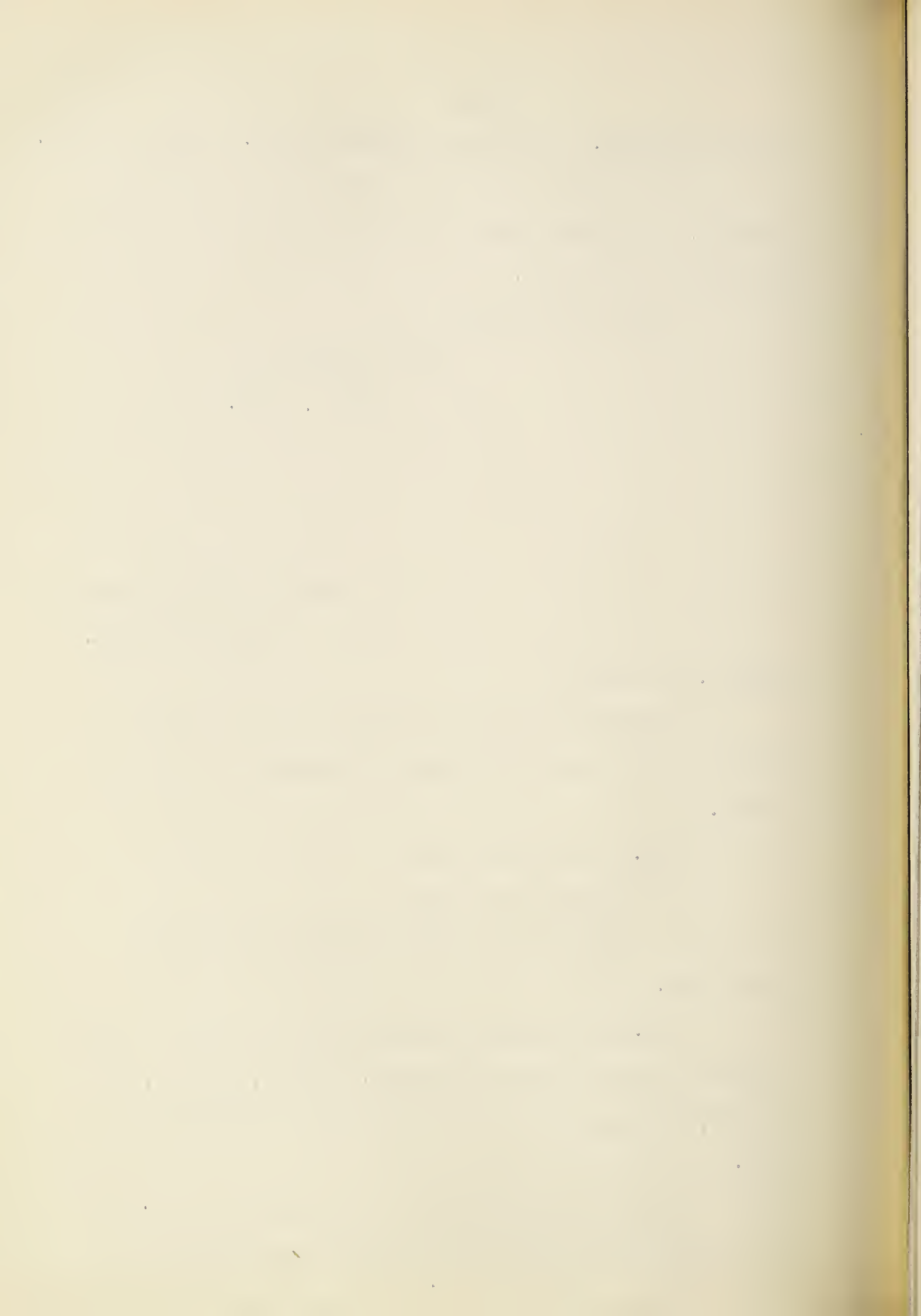
Nos. 430-434 (one parcel)

441-446 (one parcel)

447-451 (one parcel) and 453 went by Russian parcel post.

Nos. 421, 422, 423, 424, 425, 426, 427, 428, 429, 435, 436, 438, 438, 439, 440, 452, 454, 455, 456, 457, 458, 459, 460 and 461, 24 packages all told, went by Russian registered sample post.

I enclose herewith a set of inventory notes covering this shipment and on which notes I gave as much information as



I could obtain. Among this shipment the grapes, Nos. 441-451, are of the most important. No. 448 (Awarsarghua), 449 (Agadai), 450 (Schach-i-soum) were especially recommended to me by Mr. A. E. Bistevius, the viticulturist in charge of the Smitskoi vineyards and from whom I obtained all these grape cuttings. Do you know of any good man we might entrust No. 457 (Primula acaulis var. Sibthorpii), a beautiful bluish flowered primrose? The two apples, Nos. 437 and 438, may also be of great value to the southern sections of the United States, especially there where the rainfall is fairly great for the annual rainfall here in these sections of the Caucasus is great. I was informed in Souchoum Hale, it is about 44 inches and in Batoum 120 inches while in the country laying between one finds all intermediate amounts.

Well, I will close for this time. I got a whole lot of mail here in Batoum and will say a few days to answer it all.

I remain with best of greetings, also to all in the office,

Respectfully yours,

FRANK H. MEYER.

Batoum, Caucasus, Russia,

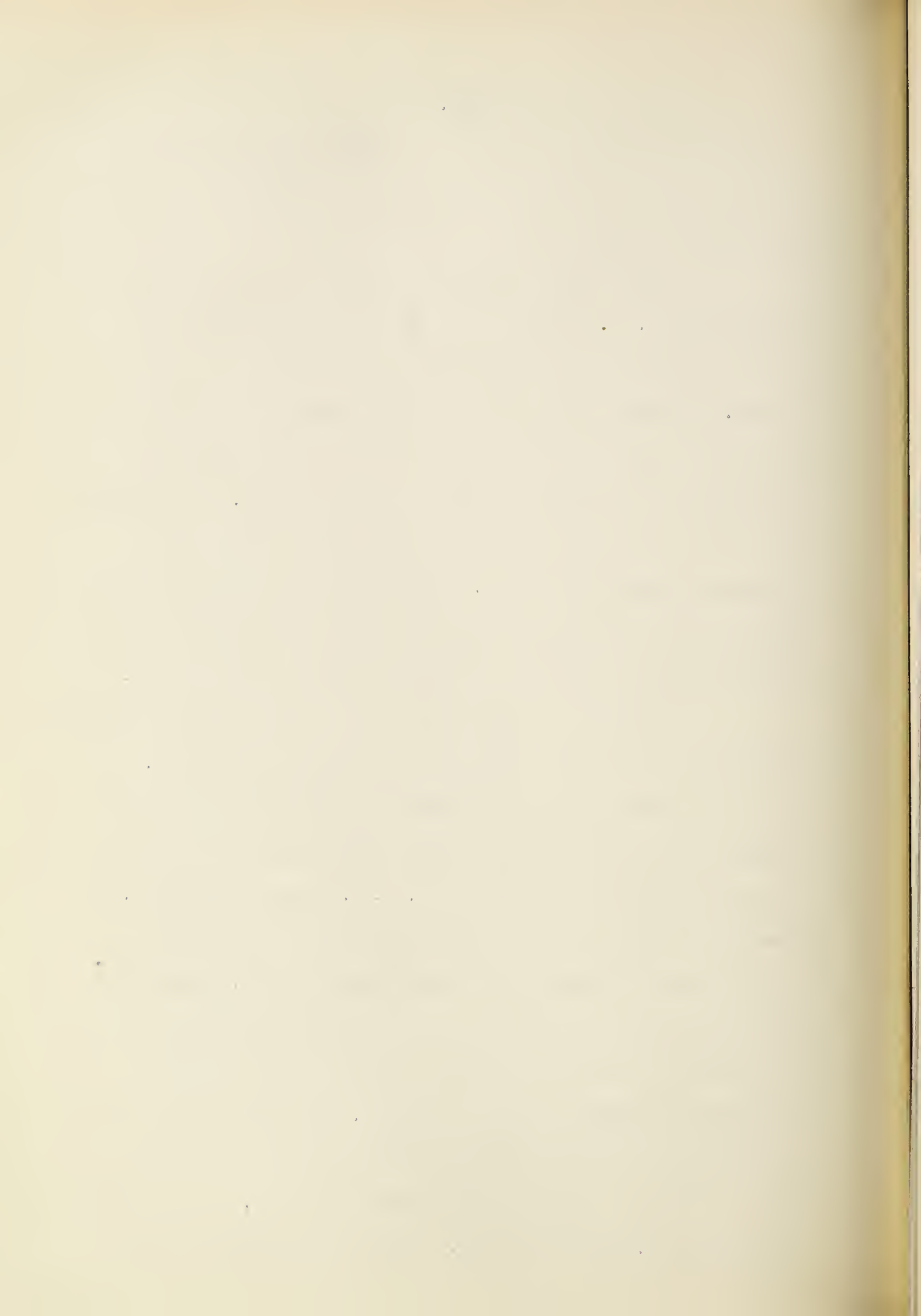
February 26, 1910.

Dear Mr. Fairchild:

Today I sent you by Russian parcel post one package labeled seeds. It contains 12 samples of various fruits and nuts I purchased here in Batoum in different stores and market stall. It seems to me that there are a few items of interest among them, like for instance, those 2 varieties of almonds which are so strikingly different from one another. The raisins, too, are not the usual kinds and did you ever see dried mulberries? They are new to me. The hazelnuts and filberts are staple crops here and some propaganda for their culture in the Southern United States is certainly not to be refrained from.

I enclose 12 sheets belonging to these above mentioned samples giving as much information as I was able to obtain.

Then, today we delivered to the warehouse of the German Lloyd herein Batoum, 2 boxes, (one large one, one small one) marked AI and addressed to Mr. J. F. Boosa, 2 Rector St., New York, U.S.A. These 2 boxes will be shipped to New York by the earliest steamer and I am arranging with Mr. Heingartner, our Consul here, to have the whole affair settled through him. The contents of these 2 cases are many and varied. Firstly, a large bag of Diospyros Lotus fruits, No. 1258a, to be tested as a stock for Texas in the mild-wintered regions of the United States. Then a large bag of Chickpeas, No. 1259a, Then 2 sacks of wheat, Nos. 1260a and 1261a. These wheats are said to come



from Samsun, Asia Minor, and No. 1200a especially seems to be a fine red, hard wheat. In case you find time, I would like to hear from you whether Mr. Carleton has anything to say about it. Then, I sent some pods of Gleditsia caspia, No. 1202a and 1203a. There is some doubt whether this Gleditsia has been introduced into the Crimea or whether it really is a native. Mr. A. D. Jackson, a botanist at New, England, is very much interested in them and I suggest to send him a few pods of each number to assist him in the very difficult work of determining the various Gleditsias.

I enclose herewith the inventory cards for the above 6 numbers in duplicate.

Then, you will find in these 2 cases several (14) packages of herbarium material, namely:

<u>Juniperus excelsa,</u>	<u>Uniperus oxycedrus,</u>
<u>Cercis siliquastrum,</u>	<u>Arbutus andrachne,</u>
<u>Olea europaea,</u>	<u>Pinus tauricus,</u>
<u>Pirus sp.</u>	<u>Eupleurum ruticans,</u>
<u>Hedera Helix colchica,</u>	<u>Cunninghamia sinensis,</u>
<u>Crataegus pyracantha,</u>	<u>Fagus orientalis,</u>
<u>Moss,</u>	<u>Quercus siber.</u>

Of most of this material I would like to see Mr. Sargent supplied with a liberal sample and especially of Juniperus excelsa, J. oxycedrus and Pinus tauricum.

I trust that Mr. Ricker or the one who has charge of

exchange matters will kindly be notified of our wishes.

Then there is a parcel containing 10 small packages of fungi collected here and there in the Caucasus. There are a few strange ones among them and I would like to see them given to Dr. T. A. Merrill of the Botanical Gardens, New York, who is compiling a work on fungi and requested me especially to send him material.

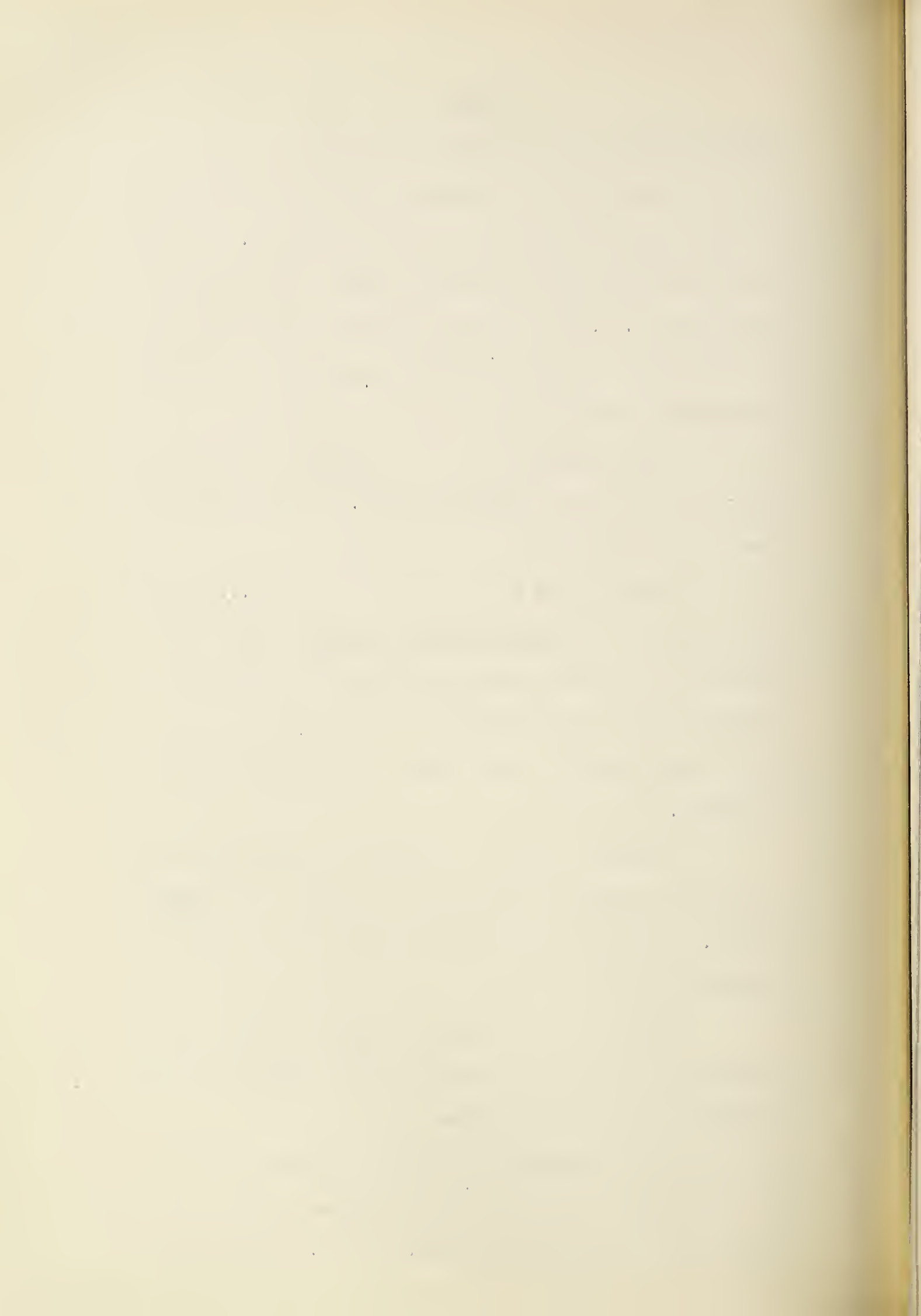
I also enclosed in the big box some very large specimens of crown gall on Juniperus divaricata. They may be given to those interested in them.

There is also a fine piece of a steamed!!! bamboo stem enclosed; (from Phyllostachys pubescens) coming from Chaleva, near Batoum, where nice furniture is made already from plantations of bamboo where the first plants were set out 15 years ago. Later more about this most interesting experiment.

Then, you will find 1 package of tobacco leaves of the Tregizand cigarette variety and 1 package of the Samsun variety. Both are excellent varieties of which I sent seeds some days ago.

There are also 2 samples of soils to show the difference in the nature of these soils and to enable our specialists to analyze these samples.

I also enclosed some books in Russian: "Works of the Committee of Viticulture & Wine Making," "Farming in Turkestan," "Wine Making in Russia. Part VI. Asiatic Russia



(Turkestan)," "Botanical Institutions & Gardens of Southern Europe and Northern Africa," "Botanical Gardens of Lisbon, Madrid & Kew," The three first volumes were given me in the Department of Agriculture in St. Petersburg; the last 2 I got from Prof. Livsky of the St. Petersburg Botanical Garden. (All these volumes can be presented to our Department Library.)

In English there is: "Practice of Medicine," Osler. I really hate to part with it, but it is too heavy and somewhat too technical to be of much use to me. I received it from Dr. Erwin F. Smith and I kindly wish you would return it again to him, with my best thanks.

The catalogues of Vesse and of Barbier I enclosed in case you might wish to retain them. To me they are too heavy and not very necessary. I am trying to reduce my baggage as much as possible and will dispose of all things not absolutely essential.

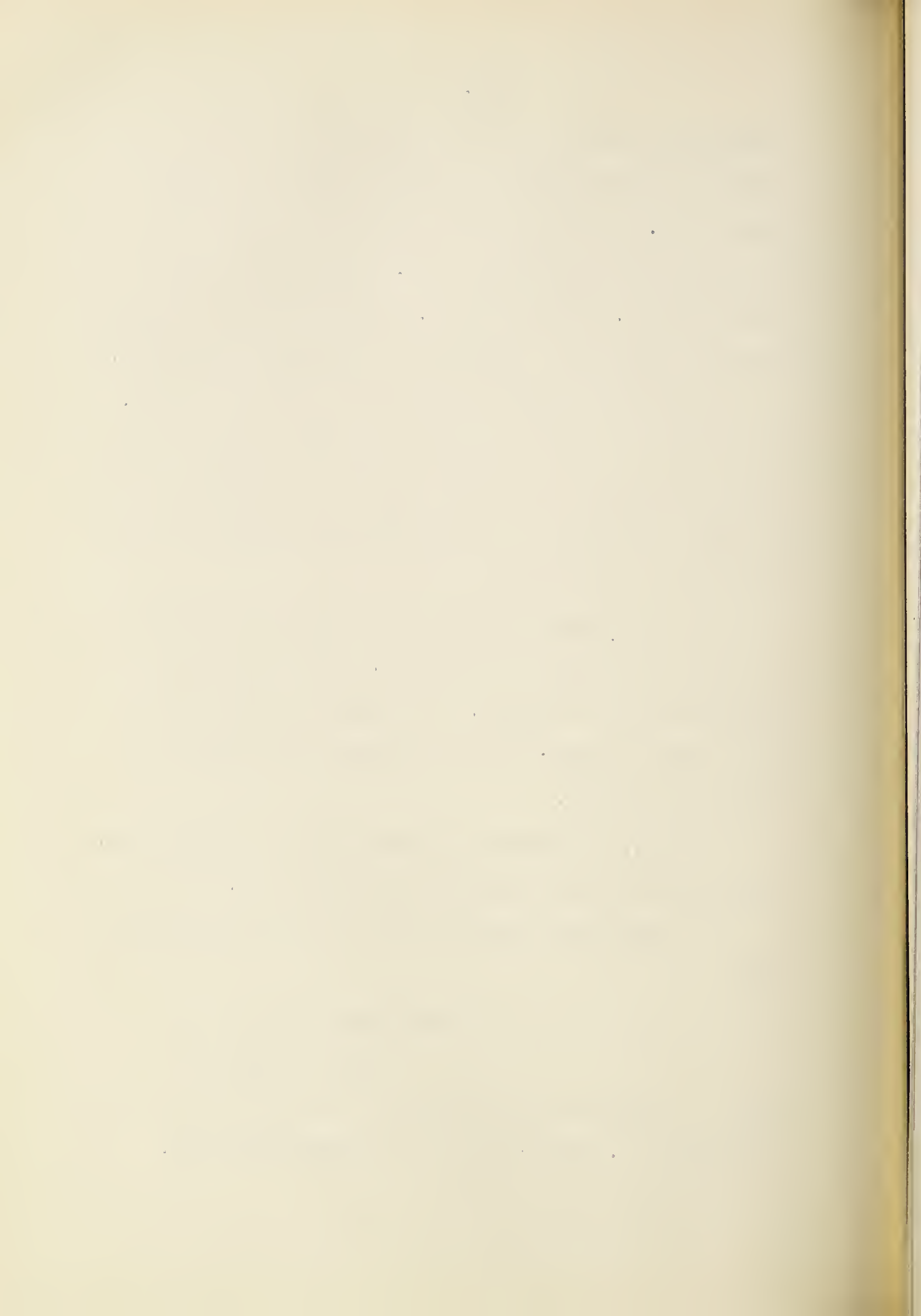
Well, this covers about all again and it being 2 A.M. I will have to postpone another letter until later.

With kindest greetings, also to those in the office,
I am

Respectfully yours,

IRWIN M. MEYER.

P.S. I found out that the seeds of an umbelliferous plant I sent under No. 1255a are those of Eupatorium fruticosum.



Batoum, Caucasus, Russia,

February 27, 1910.

Dear Mr. Fairchild:

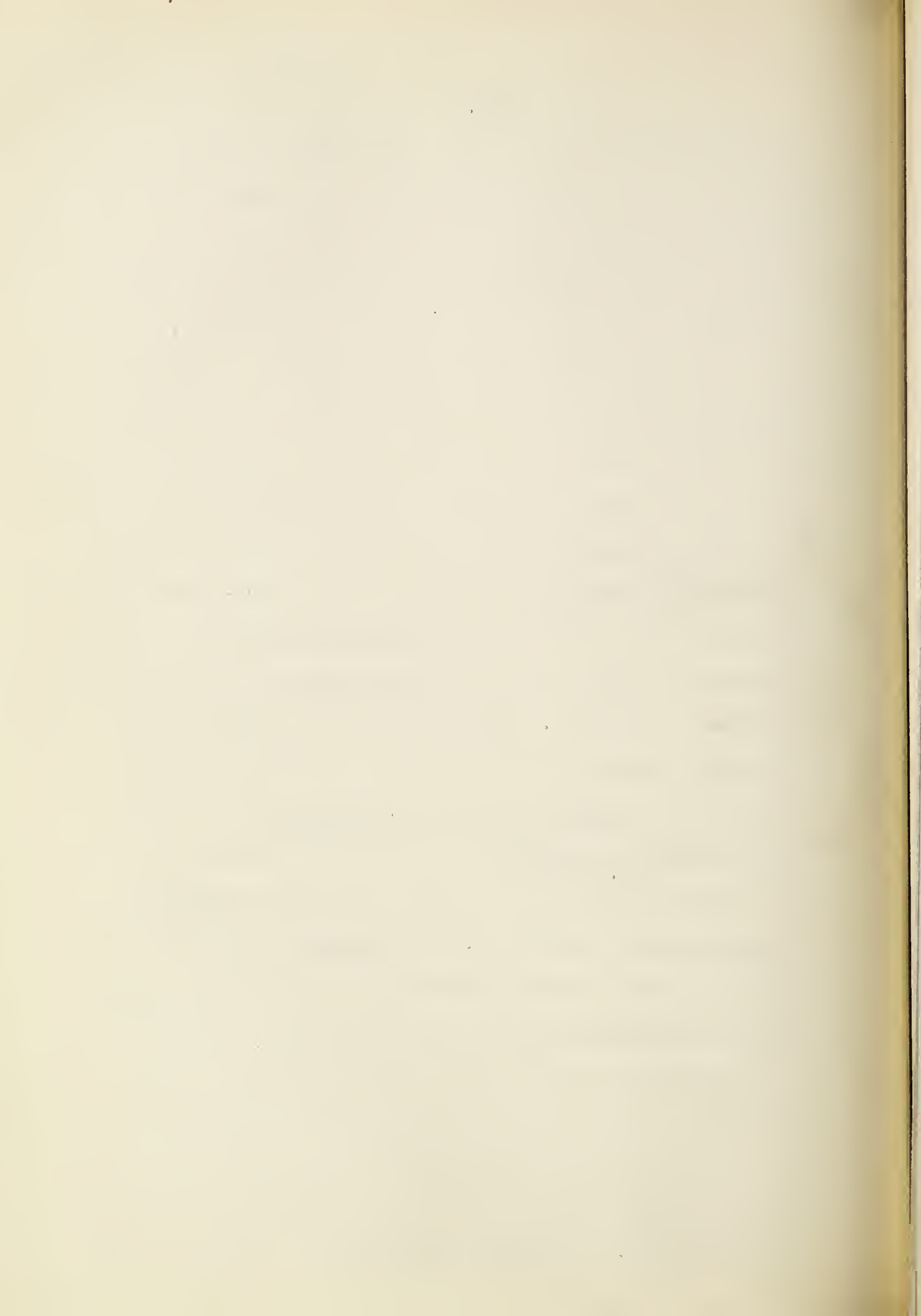
These last times I have written you only some short business letters and although I know that you won't have time enough to answer my letters, I will simply jot these things down for reason that they may be of importance to know to various people interested in them.

I believe I left off on February 3 when I said I was departing, February 4, from Agri, Caucasus to Souchoum Kale by cart. Well, we had 2 soldiers on horseback with us as a guard, supplied by his Highness, the Prince of Oldenburg, but we had to feed and lodge these men and their horses, so it came rather high, this protection. We had no encounters whatsoever, I am sorry to say, for a scrap wouldn't have been so bad with some of the outlaws here. We were shown, of course, some spots where some people had been murdered a few months ago, but that was all. On February 5 we had the whole day rain and so much of it that we were soaked to the skin and our baggage wet too. This bit of paper still shows the effect of the moisture and my envelopes had to be opened while they were still moist, but still a lot are glued together. On February 6 we went farther on and slept that evening in the great and celebrated Monastery at Lovai Avon. A fine place it is, with hundreds of monks running about. We saw the next day, February 7, the Head Prior, spoke about cultures of plants and religious affairs (he was not

much interested in the first subject) and saw the fine olive plantations where nearly all the olives are grafted. They have, however, some insect pests in them and obtain only a small yield of olives. The apple orchard was infested with woolly aphis and they were not very successful in combatting it.

In the evening of this day we landed in Bouchour Ale, after having passed in this four days' course a very interesting country, full of wild and rugged scenery. One time we went through forests of beeches (Fagus orientalis (Lipsky)) and of Caprinus betulus and then again through open lands where the bracken (Pteris aquilina) had taken full possession. Sometimes we passed valleys full of alders (Alnus glutinosa) then again we came upon clumps of tall Iterocaria caucasica or saw a wild pear full of mistletoe. Primula acaulis var. Sibthorpii with its purplish-blue flowers was seen here and there on a moist embankment and Galanthus nivalis var. Caucasica ran together with Helleboris caucasicus on some moist and rocky spots. In the woods we noticed as under growth the evergreen Rhodendron ponticum and the deciduous Ph. flavum (Azalea pontica), brambles, smilax and grape vines ran riot in the thickets and some Cornus mas and Buxus sempervirens grew in stony cliffs. The Caucasus is a wonderfully beautiful land, fully rivaling California in its diversity of scenery, climates and latent possibilities.

On Tuesday, February 8, we had heavy rains again, but thank Heavens, we were in our hotel in Bouchour, busy drying all the wet baggage. On Wednesday, February 9, I went to the Botan-



ical Gardens and saw Mr. A. van de Velde, the head gardener in charge who was very kind to me and showed me the many things they have there. There are not many rare things there from our point of view, but they are testing new things all the time. I am sending you herewith a few of their publication in which you may find perhaps something of interest, if your time allows you to peruse them. There are numerous misprints in them, but they told me they have an awful lot of trouble with the printers. Both Mr. B. B. Burdowicz, the director, and Mr. A. van de Velde, the head gardener, are very anxious to exchange with us and they told me we are free to ask for things that we see in their publications. From us they like especially to get harder varieties of citrus and other plants of economic interest. I gave your name and address and suggested to send you their publications regularly. You may correspond in English for Mr. van de Velde speaks and writes that tongue. In these publication I am sending you herewith, there are some interesting notes on various bamboos and citrus which may be well worth translating roughly. You will also notice quite a few names of tropical plants but, not all of them are alive any more; the winter is somewhat too cool for the tender exotics. The climate resembles that of northern Florida quite much, with just a touch of Central California, Central Japan and northern New Zealand thrown in.

On February 10 we went to the experimental station near Gouchoum where we saw the various fruit trees that are

being tested. Mr. Finemjage, the manager, told us how much they are troubled with woolly aphis upon nearly all their apples and how no remedies avail much against this American pest. They had found, however, that the white Calvill when grafted on seedling Candil Singhe is not attacked at all, while an ordinary seedling stock it almost perishes when young. Their experiments are not complete, however, and this information cannot be taken as absolutely sure. When they have troubles with the stone fruits; peaches and apricots do not set well and most plums get gum disease and especially so the Japanese. They often have very cold frosts in early spring, just at the time the trees are blossoming and these frosts are extremely very harmful. I suggested to develop their own fruits by crossing and hybridization and Mr. F. answered that they had come to the same conclusion and were making already experiments in that line. I outlined from this experiment station 9 different varieties of pomelo oranges and 5 varieties of hazelnuts. They would like to test anything we have to offer and are especially anxious to know whether the Kaiser Wilhelm apple and the raspberry apple are not proving to be without the same thing. The trees they have here of these varieties are growing to be more and more alike, although "Kaiser Wilhelm" is subjected to woolly aphis, while the raspberry apple is not. Mr. Marcwicz is also director of this station, so all correspondence can go through him.

In the afternoon of the same day we went to a village named Spasoffia where a collector lives of feeding bees, for which we were in need. We were so unfortunate as to strike a small cloudburst and while tramping along the roads the water and liquid mud simply soaked out of our shoes so that at home everything had to be washed out and drying up to dry and the bees we didn't get after all, for the rain never ceased in the succeeding, or any other day.

On Friday, February 11, we visited several places in the vicinity of Goudoum Ale, like the beautiful grounds of M. Shtskoi where an interesting collection of ornamental palms is being kept. It is situated in the foothills of the Caucasian Coast Range and all plants that grow in Southern California were to be seen here, too, like Washingtonia filiformis, W. robusta, W. Sonchii, Dynerden amata, S. chinensis, Phoenix in several species, Sebal in many species and hybrids, various Australian acacias and Eucalyptus, etc. Oranges, lemons and mandarins are doing very well there and I got some cuttings of a good lemon which is said to be hardier than the ordinary varieties.

M. Koshnir, the gardener, informed us that he believes in manuring even the so-called desert plants and he showed us the difference in looks and in growth between Opuntias that were manured and those that were not and there was a decided difference in favor of the first.

We also went to Mlia Goulovitchnikoff and saw some

splendid specimens there of Araucaria brasiliensis, which does much better in this climate here than the other Araucarias, although A. Bidwillii also makes a fine show. Some fine Californian pines, like P. Jeffreyi, P. Coulteri, were to be seen and a most impressive alley of Cupressus sempervirens pyramidalis. I noticed a single specimen of Pinus bungeana, so we know now that this pine will stand the southern California climate. Then we went to the estates Sirape and Ooscouria, but the langer, Mr. E. Albrecht, was not to be found.

The next day, Saturday, February 12, we experienced great difficulties in exchanging some American gold money that I had still with me, for my letter of credit was of no use in such a small place like Souchoum Kale. I also went to the Botanical Gardens again and studied their bamboos. Phyllostachys mitis is by far the best here, but they have set out a new plantation of Ioso (Phy. pubescens). Their other bamboos you will see noticed in the three publications I am herewith sending you, but they are not as healthy as they could be except Phyllostachys henonis which is almost a weed already here and there in Souchoum.

Sunday, February 13 and Monday, 14, we spent in packing in samples of seeds and sending them. Waterproof paper was not to be had in Souchoum and I had to keep cuttings and plants until I got to Batoum.

On Monday, February 15, I went again to Sirape where Mr. Albrecht showed me around and then we proceeded to the

vineyards of Mr. Smitskoi an hour and a half away.

I got a nice lot of grapevine cuttings from Mr. A. E. Biskevius, the head gardener in charge, which cuttings will reach you probably before this letter. We noticed how nearly all of the native Caucasian grapevines have to be pruned with very long shoots as they do not bear otherwise. We also sampled a few of the native wines and found them to possess much more tannin and coloring matter than most other wines. I am afraid the world at large will select the somewhat lighter wines of France in preference to the very greater part of Caucasian wines.

It got too late that day to see the orchards of the Estate Dioscouria, but the next day, February 16, we went there again and I got a lot of scions of pears and apples, Nos. 437, 438, 439 and 440. We also were informed that the "Napoleon" apple is proving to be resistant to woolly aphis at Dioscouria which discovery is considered to be very important in this section where whole orchards have to be cut out on account of being infested with this pest.

Mr. E. Albrecht was very kind to me and gave me quite a lot of information about native plants. He showed me in the greenhouses how they root such hard-to-propagate conifers as Picea pumila, Picea excelsa, in the sand; how Sciadopitys verticillata grows much faster grafted on roots of Cunninghamia sinensis, than on its own roots; how the evergreen Ligustrum lucidum proves to be a fine stock for standard lilacs in the

mild-wintered sections of Russia, but how much the people in the north complain of their lilacs being killed by frost; how the well-known rose (Rosa multiflora) is proving the best grafting stock for roses to be used for forcing purposes.

Then, I was told that apples succeed well in the warm and wet sections of the Caucasus when grafted on the medlar (Mespilus germanica). I gave Mr. Albrecht your name and address and he will send you seeds of native plants and bulbs of native lilies. He will also try to obtain for us from the northern part of the Caucasus some good native cherries and apples. From us he wishes harder citrus fruits, pecan nuts, such varieties of cotton and of corn as succeed well in our southern states. Also some sorghums from the south. Then some seeds of California evergreens, like Umbellularia californica, Arbutus menziesi, Castanopsis chrysophylla, also some seeds of Korneya coulteri. Since he gave me scions of pears and apples and was influential in obtaining these grape cuttings, I suggest to send him a small bag with various seeds by registered sample post. Correspondence Russian or German. I am sending you herewith the catalogue the Estate Sinope is publishing and which I wish you would keep on file. There are many bamboos listed in it.

Well, my experiences while visiting the tea and bamboo plantations in Chokva will come in another letter.

With best of greetings, also to the office force,
I am, Sir,

Respectfully yours,

WILLIAM F. MEYER.

Tiflis, Caucasus, Russia,

March 3, 1910.

Dear Mr. Fairchild:

My last letter I believe ended with February 17, how I intended to leave Bouchoum and that I took a steamer in the evening of that day for Batou. Well, the next day, February 18, we landed in that city, while the rain poured down and everything looked as gloomy and deserted as could be. I saw our Consul, Mr. Alexander Heingartner and received a large stack of mail from all quarters of the world.

On February 19, 20, 21 and 22 the rain simply continued pouring down all the time. We packed in, however, cuttings and seeds and pasted the maps from Turkestan on cloth and so the time wasn't altogether lost, although we could have spent it better by having collected out in the country.

On Wednesday, February 23, and 24, we went to Chakva by railroad, about 14 miles from Batou. The first day we found the director of the tea and bamboo plantations, Mr. Petroff, not at home and Mr. N. T. Soot, the practical manager of the plantations had to go to town until evening so we went around partly with the assistance of a Chinaman from Canton, Mr. Low, who has charge of the tea manufacture, partly by ourselves. We saw how the virgin forest in the mountains is being cut and how the tea plantations are being extended from year to year until beginning 15 years ago with a few desertines, now they have nearly 300 desertines and they will probably reach

it in the near future several thousands of desertines; for the tea produced is of an excellent quality and finds a ready sale.

In the evening of February 23 we had long talks with Mr. Reck about tea, bamboo and mandarin culture, which are the three main cultures of the Imperial Kuanze Chakva. The next day we went around and saw various things under his guidance.

There are some striking things to be seen there in Chakva and Mr. Reck has inaugurated quite some ideas of his own. For instance. The virgin forest, composed mostly of beech (Fagus orientalis) and Carpinus betulus, is cleared by contract labor. All the dense undergrowth is grubbed out and burned; the heavy wood, however, is cut up and used for fuel, to be used in the tea factory.

The tea seeds are selected from the best strains of tea and are planted in the autumn right on the spot where they want their tea bushes. Mr. Reck plants from 5-6 seeds in a circle, about a foot in diameter and says that by having several bushes come out of the ground simultaneously and by not transplanting the plants, he is able to pick tea from 2-3 years earlier and obtains straightway a much larger yield by this method than by the old methods of transplanting only 1 plant to each hill.

He prunes his bushes rather severely in early spring, (February or early March) and by cutting back severely, he obtains a vigorous new growth which produces an excellent quality of tea and much of it. He picks his bushes 4 times

per year, that is on the more than is done any where else.

He says he knows his bushes won't live as long as those given a milder treatment, but he says it is better to obtain heavy yields from a short-lived plantation and have good quality besides, than to obtain poor harvests of medium quality from long-living plantations. In these ideas he is strikingly American and I couldn't help from complimenting him upon his original ideas which he is developing there all by himself.

They cultivate a few varieties of tea like Angra, China, a locally developed variety and some minor sorts. Mr. Beck is of the opinion that after all, tea varieties amount to very little when transplanted to a new locality, for tea acquires its flavor from its locality and not by being of fixed habits under all sorts of cultural conditions. He found that the teas of Central and South Central China were the very best for this section around Batoum. Japanese tea is inferior in flavor and in production and Ceylon and India teas freeze back in the cool winters. He believes, however, in selection just the same and says they are selecting certain strains already in Chakva which are more productive and less resistant to attacks of diseases.

I got some interesting figures concerning prices of labor and of tea. The ordinary field labor is paid by the day, under supervision, however, of 120 roubles when at work. The rough ordinary help receives but 60 kopecks per day, but the more skilled ones from 90 kopecks to 120 rouble, this last amount,

however, is only paid to those who pack, weigh and assort tea.

Mr. Reck says that children are the best tea pickers. They do not tramp the soil down like adults, they do not damage the bushes as much and they pick far more than grown ups, sometimes even 3 times more. He has pickers that collect 25 lbs of tea per day which is unusually much.

A desertine of tea produces about 1200 Russian pounds of dry tea per year which is worth roughly 1500 roubles. Labor of picking, of pruning, of drying, curing, packing, etc. is about 900 roubles so there remains a clear profit of about 300 roubles per desertine. The prices of tea vary from 64 kopecks per pound to 18 roubles, but the ordinary tea is sold at 1.20 to 1.30 per pound.

I tasted tea of several qualities and must say that they possess a fine flavor, they are between the Chinese and the lighter Ceylon teas in flavor and color.

The drying and curing of the tea is like it is done in India and Ceylon and English machinery is used and very little new can be said about that. The summer temperatures are high in the Caucasus and the tea is mostly dried by being placed in cloth trays underneath an iron roof and temper tures are said to be fierce there in summer.

A novelty I observed in those tea plantations at Chakva was the planting of shade trees between the tea bushes and they use here the Albizia julibrissin, being planted at distances of from 20 to 25 feet apart in all directions. Mr. Reck says that

they are very beneficial to the tea plantations, making the leaves larger and darker green and best of all yet, prolonging the season of picking, enabling them to postpone picking for a couple of days while on the non-shaded plantations the loss of one day means a reduction in quality. In my own wanderings in China or Japan I never saw shade trees in tea plantations, save an occasional Gynocladus chinensis, but then I haven't been in the best districts of either one of these countries and do not know whether Dr. Reck's idea is new or not.

These tea plantations at Chakva are situated on very rolling land and the soil is of a reddish-clayey nature, very fertile apparently and resembling very much the soil in the mountainous districts in Central China. However, it washes away here and there and to prevent this dense clumps of Cryptomeria japonica are planted, as close together as possible and it is strange to see how these trees grow healthy and well, even at distances of only 2 - 3 feet apart.

In conclusion I may say that certain sections of the Caucasus have a very bright prospect for the production of a good quality of tea and that in case the price of native labor, which is mostly non-Russian, doesn't soar too high, tea will be a profitable crop, especially so to the small farmer with a large family. In how far the American farmer can profit from the experiences at Chakva is a big question. Certain sections of the South Atlantic coast certainly are able to produce a good tea, but whether the price of labor isn't prohibitive,

is another question for to produce good qualities of tea, the picking apparently seems to have to be done by hand.

In a next letter my observations on the bamboo cultures at Chakva.

With best greetings also to those in our office,
I am

Yours respectfully,

FRANK N. MEYER

P. S. Perhaps Dr. Chas. U. Shepard at Summerville, N. C. would be interested in the information I am giving herewith.

Tiflis, Caucasus, Russia,

March 3, 1910.

Dear Mr. Fairchild:

A few hours ago I sent you a letter about the tea plantations in Chakva and now I will come to the bamboo cultures there which are perhaps even more interesting to us than the tea.

Firstly, these bamboos here in Chakva were introduced by Mr. J. N. Klingen, superintendent of the Imperial Domains in the Caucasus, he travelled with several assistants in India, China and Japan for a few years, I was informed, and brought back various bamboos, tea and some minor plants. The total cost of this expedition has been 72,000 roubles as

I was informed there in Chakva. They consider it, of course, a pretty steep amount, but it is fully worth the money, however, for a few new industries have been established here in the Caucasus.

The climate there in Chakva is a mixture of many climates; Central China, Central Japan, Central California, North Florida, and North New Zealand have all contributed to its peculiar atmosphere. The summer, for instance, is long and hot, with quite some humidity, the spring is nice and warm with rain and sunshine intermixed, the autumn is long, warm and dry and the so-called winter short and rather wet.

Now about the bamboos here. The four main sorts are Moso (Phyllostachys pubescens), Japanese Madake (Ph. quillioi), Chinese Madake (Ph. sp.) and the black bamboo (Ph. nigra). These four are cultivated for their lumber which of the last three is mainly used in furniture manufacture, while Moso furnishes poles for military purposes, like for field telegraphs, for field telephones, etc. The demand for these poles is very much greater than the supply. They cultivate, however, also other species of bamboos like Arundinaria Simoni, Arundinaria japonica, Bambusa gracilis, B. quadrangularis, B. striata argentea, B. verticillata, Phyllostachys aurea, Ph. ruscifolia, Ph. vividi-glaucescens and several that haven't been identified as yet. A few of those are also sparingly used in furniture making, but Mr. F. R. Rechk, the manager and of whom I wrote in my heretofore mentioned letter, says that they are not worth

the space they occupy and he sticks mainly to the four first mentioned sorts. This may be so in Chakva, but I was informed here in Tiflis, that Phyllostachys aurea is a very good species here and in other localities where it is not so warm as in Chakva. It has successfully withstood a temperature of 23° Celsius (which is close to 10° below Fahr.) according to Mr. S. N. Timofeen, the Government Agronomist here in Tiflis. Phyllostachys mitis and P. Quillioi are also said to have stood unhurt such a low temperature.

Now to come back to the bamboos at Chakva, Phyllostachys pubescens (moso) thrives best of very heavy reddish clayey soil on hillsides. It takes a long time to be established and is not so productive as the Japanese Madake, (Ph. quillioi) but a good sized pole produces 12 roubles worth of flower vases, which are very popular just now and in case the market should become glutted with such vases and they are not selling any longer, then the military authorities are willing to take any quantity of them for field poles and in case that source of offset should fail, then house builders all over Russia are in need of light and strong scaffolding material. Right now they could dispose of very large quantities in Tiflis. Of live plants too, they have much demands and they charge 15 roubles for one rooted shoot. One trouble with Moso is that on account of its weight and largeness, the labor of cutting and transporting is much more expensive than with other bamboos.

Phyllostachys ouillioi, (Japanese Madake). This very useful bamboo does not need as good a soil as Moso, thrives on level, less sheltered places fully as well as on sloping, protected sites and is very productive. Mr. Rech prefers it for all around usefulness, to any other bamboo. The stems grow to be 50 to 60 feet long and taper only ver little. When the wood isn't too hard yet, a. i. of 2 or 3 year old poles, it is used for furniture making. Has it become, however, quite hard, as in a 6 or 7 year old cane, then it is most excellent for water pipes and Mr. Rech has water pipes underground that have been there now for seven years and do not show any sign of deterioration. These pipes are from 10 to 15 meters long and there is a large demand for them locally at 6 kopecks per meter, as they are much cheaper than iron pipes.

Phyllostachys sp. (Chinese Madake) (perhaps *Ph. mitis*) requires about the same conditions as the Japanese madake. It grows rather slender and suffers somewhat from being blown over, when the soil is wet or on light soil ground. It is mainly used in furniture making and for fishing rods.

Phyllostachys nigra, (the black bamboo) is of smaller growth than the preceding sorts. It is not very exacting as to soil and locality, but seems to prefer a black moist earth and a somewhat sheltered place to do best. It is used exclusively in the lighter furniture manufacture, like light tables, little cupboards, picture frames, ornamental baskets, etc. It is also much beloved for souvenir walking canes.

Altogether there are now about 30 desertines of land devoted to the culture of bamboos there in Chakva and it is far too little to allow them to work all the time. The furniture made from bamboo is very popular and sells at good prices. I asked for a solid rocker chair and was informed it sells for 12 roubles. As the prices of furniture and especially of artistic furniture are rather high in Russia, these prices are not at all considered steep.

Now about a novelty I observed there in Chakva in connection with the utilization of bamboo as a furniture material. Mr. Rech found out He had to treat his bamboo stems with steam to prevent them from cracking, after they had been made into furniture; he had a steam engine ordered that supplies steam to three iron cylinders, that are respectively 12, 9 and 6 meters long, while they are about $1\frac{1}{2}$ foot in diameter. The stems are pushed into these cylinders until they are quite full, the doors are closed then with bolts and steam of $3\frac{1}{2}$ atmospheric pressure is being applied then for about an hour. Thin canes need less time and heavy ones more. When these bamboo stems have been sufficiently long in the cylinders they are taken out when warm yet, are wiped off with a wet rag to take the sticky coat off, that they have sweated out and are allowed to cool off after which they are laid on racks in an airy barn where the winds have free access, but where the sun does not shine. The stems, after they become dry, have a slightly brown-green look, which is, however, an improvement upon the otherwise grass-green color,

which the young stems, especially, have. Mr. Rech says that the steaming process isn't quite satisfactory as yet for there are still a number of stems that crack after they have dried. He asked me how they prevented this cracking in China and Japan. Well, the Chinese simply waterlog their bamboos for several months, but even then one sees cracked bamboos once in awhile. I suggested to try more steam, that is, a higher pressure, or to give them a heated oil bath, which last method Dutch carpenters use in making utensils from the strong but easily cracked beechwood.

To bend the smaller pieces of bamboo for furniture and decorative fence making, they first fill the to-be-bended joint with dried sand and then apply the flame of a plumber's lamp to it, bending it while heating and when done carefully, few pieces break under this rather novel process. You can see by the photos enclosed that although the bends are not abrupt, still one would not expect hollow bamboo to allow itself to be turned like, for instance, in these bedstead front and back pieces on the large photo.

As to the cost of steaming bamboo poles, Mr. Rech says it isn't more than $1\frac{1}{2}$ kopeck per cane, large and small ones included. I presume it is a little bit more when one counts the outlay on machinery, which I hardly think Mr. Rech included.

Well, altogether I am very pleased I saw these bamboo experiments there in Chakva. It shows that the white race

too is able to do something with these most useful, but strange to say, so longly neglected giant reeds. As a material to make children-room furniture from, it simply cannot be excelled.

It is light, yet strong and even, if children fall with various pieces, they won't hurt themselves, nor break the furniture and it is artistically looking and easily cleaned. Then the labor of cultivating and caring for the bamboo is not a hard one and the utilization of the material in furniture manufacture basket making, and for other purposes doesn't call forth a great amount of physical strength or of costly implements and can be done even by people at home as a side occupation and bring in quite some welcome cash. I hope to see the time yet that there are some large areas in our southern states devoted to these so useful plants and that we have a feeling then that our labors in describing and introducing these various bamboos were not altogether wasted. When I use the word we, I mean of course you, Mr. Fairchild, and those of us who also assisted somewhat in trying to make bamboo culture a real success in America.

Well, with best of wishes, also to all in the office,

I am

Respectfully yours,

FRANK N. MEYER.

Tiflis, Caucasus,

Russia,

March 4, 1910.

Dear Mr. Fairchild:

Yesterday I sent you by Russian registered sample post 7 packages numbered 462-468 (inclusive) containing scions or budwood of apples and cherries. Today I am sending you again one package by Russian parcel post numbered 469-471 and containing cuttings or scions of some fine varieties of grapes.

We are having no end of trouble with the Russian post office authorities, who insist upon all kinds of absolutely unnecessary formalities. The further East we are traveling the worse it seems to get with those people. A registered sample is rather easily accepted, but a parcel, my, it has to be tied with an unbroken string, from 6 to 15 seals have to be affixed, from 6 to 8 papers have to be filled out for each parcel and then we have to pledge ourselves by signature, that in case further claims are made upon us we will pay such claims, I suppose in Turkestan they won't accept parcels at all any more, just like when I was in Harbin where they wouldn't accept any parcels to Foreign countries at all.

The ignorance of the post office people is simply terrible. America seems to be considered less civilized than New Guinea. In China one knows one cannot hope for too much in the line of postal facilities, but here in Russia so-called white man's country, well, it is simply astonishing!

I enclose the inventory notes belonging to these aforementioned shipments in duplicate. I put as much on them as I was able to find out. All the numbers with the exception of 470 which is a grape from the Crimea are native to the Caucasus and there may be a few good things among them. Nos. 462, 463 and 464 are apples from a native Lingrelian orchard. We were allowed to take a small quantity only, that is the reason there are so few scions.

Nos. 465, 466, 467 and 468 are real native cherries and as I am here in the vicinity of the reputed home of the cherry (namely in Kerazont, Asia Minor) it may be that we will find some good things among them. The grapes, Nos. 469, 470 and 471 are good varieties of table grapes. I wonder whether No. 469, "Dondrelabi" will really turn out to be "Gros Colmant de Caucase" as the Russians claim it is. In case that is so, more Caucasian grapes have a future as hot house grapes and ought to be tested.

Well, that is about all this time. I am having some difficulties here with the interpreter whose energy seems to be on the collapse; then the passport of the assistant, a real gardener he is, is running out and troubles are expected; and last but not least, good photographers here in Russia are as scarce as white ravens and they ruin films or work entrusted to them. This is a difficult land and I wonder not any longer

why travellers shun it like the plague. The people themselves are ignorant, but good natured as a whole, but conditions are downright bad.

With best of greetings to you all, I am

Yours respectfully,

FRANK H. MEYER.

Tiflis, Caucasus, Russia,

March 9, 1910.

Dear Mr. Fairchild:

Yesterday I sent you by registered Russian sample post 3 small bags numbered 472, 473, 474 and containing some rooted young trees of a wild almond, a wild cherry and bulbs of a Colchicum. I enclose herewith the inventory cards in duplicate and suggest that in case the material reaches you in good shape, to have it forwarded to Chico, where the plants in all probability will feel more at home than in Washington.

I am having lots of difficulties here with the interpreter; there are so many languages here in the Caucasus that one is simply lost. In a next letter more. I remain

Yours respectfully,

FRANK H. MEYER.

Tiflis, Caucasus, Russia,

March 9, 1910.

Dear Mr. Fairchild:

Herewith I am sending you as registered printed matter, the catalogue which is being published by the Imperial Domains at Chakva near Batoum. You will find in it quite a list of bamboos and other interesting plants; I didn't myself see all the plants mentioned in this catalogue as the domains are much spread out and one would have to stay a week to see all.

There are a few interesting things, however, on which I want to come back. For instance, they have found out there in Batoum and vicinity that the cast-off, or rather pulled-off, leaves of Dracaena or Cordyline indivisa constitute an excellent tying material and there is a growing demand for it. The dry leaves sell on the spot for 1.50 roubles per pood. These dry leaves can be kept on a dry airy place for a number of years without spoiling. When needed, they are wetted and can be split in several strips; with these strips grape vines can be tied to trellises and good quality of this Dracaena--this tying material last from 2 to 3 years out in the open, while willows or Fuerraria thunbergiana stems only last one year. Can we use this information in California, where the Dracaena palm, as it is called, grows plentifully in so many towns. Could you kindly bring this news, if it is news, to Prof. Huxmann's attention.

Then you may see in the catalogue some Russianized Japanese names of mandarins. They are going in for mandarin culture very strongly there along the Black Sea coast of the Caucasus. They found out that Italian varieties of mandarins are absolutely worthless for their regions as they are late in ripening (February and March) and then get caught and spoiled by frosts, but that Central Chinese and Japanese varieties are ready to be taken from the trees in November and December and escape being hurt. The variety Unshu-like is especially popular here. It seems closely related to the Satsuma orange in general habits and hardiness. They graft all their mandarins and oranges on trifoliata stock and there isn't enough of the last here so they import even seeds from Boehmer & Co. at Kotohara at pretty stiff prices. One hears marvellous tales of the amount of money there is in these mandarins. They say from 1000 to 2000 roubles profit per desertine!! But--50 years ago they had such a cold spell along the Black Sea that big specimens of Eumegistos sinensis froze to the ground and it is said that in historical times once the Black Sea was even frozen over so they are living really on a sleeping volcano with their sub-tropical cultures. Then, however, is naturally optimistic and his memory but short and people live and act as if calamities had never occurred. I advised the people to bend up their grafted citrus stock every fall so as to be sure that in case a real hard freeze occurred they wouldn't lose the whole thing and a few men were very glad to get it.

suggestions. They had never thought of it before. The loquat citrus japonica, is also becoming a favorite these last years. A few years ago Mr. Zuck could hardly dispose of them at 2.50 roubles per good, while now he gets 10 roubles for the same quantity. Preserved loquats sell at 1 rouble and over per pound in St. Petersburg and Moscow and are considered a real dainty delicacy.

In the Charva catalogue there is also written that Leococca cordata plants sell at 25 and 40 kopecks per piece. Well, they have planted an avenue of this Aleuritis here and they say the trees are very handsome in early summer when in bloom. They haven't begun as yet to utilize the nuts, but they intend to do so for they yield 60-65% oil as they had found out.

Staphylea colchica is noted as a shrub of which the flowers and flower stalks can be pickled. I spoke about these things with some people here in Tiflis and they say that the taste is all right.

Eucalyptus thurbergiana is recommended as a fodder plant for cattle and horses and as a cover for enclosures and waste lands.

Ulex europaeus is much planted as a hedge, but--it is a very bad plant for that. It needs a wire to keep it from falling over. It is not even growing and in dry weather it easily burns up. Citrus trifoliata was found to be the best hedge material but it is for too scarce at the present to be used for that purpose. Thuja orientalis is also a good hedge for inside divisions, away from the main roads, as it is neither

spiny nor strong enough to keep intruders away.

Edgeworthia papyrifera. With this plant they had experimented and had even Japanese expert paper makers in Chakva a few years ago. They managed to produce a good paper but the expenses became too high and they discarded the experiments and sent the Japs home again.

Phormium tenax. It proves to be too expensive to extract the fibre and the plants are only kept now as curiosities. Boehmeria nivea comes under the same heading as the former.

With campher trees, Rhus vernicifera and Chamaerops excelsa, experiments are still made. They are in hopes to produce commercial lacquer from the Rhus; the fibre from the Chamaerops they hope to utilize in mattresses and cordage.

Of Diospyros taxi several varieties are being grown, all Japanese, the complaint is that the people don't buy the fruit and it rots on the ground for lack of purchasers.

That is about all about the interesting estate Chakva, where I spent a few valuable hours. Mr. Beck will be pleased to obtain from us the name of a book on the manufacture of lacquer, if possible, in the German language, as he does not read English. Then they would like to obtain from us a few sample packages of Japanese millet (Panicum aus-palli) also of some good strains of ordinary millet (Setaria italica) and a few tubers of the sweet potato. I trust it won't be very

difficult or expensive to send him these things, will it?

Well, I close with kind regards, also to all in the office,

Respectfully yours,

FRANK E. MEYER

Tiflis, Caucasus, Russia,

March 10, 1910.

Dear Mr. Churchill:

Today it is the third day we are having rain here and although I have quite some running about to do here in this city and vicinity, I better stay indoors and answer the many letters that I have been receiving of late.

Letter of December 7, 1909, telling me the very pleasant and interesting news that Mr. Sale of Georgian Peaches Farm has decided to plant out 10 acres of 20 man partitions. Yes, I knew somebody would sooner or later get interested in that fellow; I do hope they will turn out to be a real success in Georgia.

I also see your interesting item about the chickpeas and it making a good bread. Well, who would have thought that. I have eaten in Mexico sometimes Garbanos baked entire in special little loaves and also loaves baked from green pea flour, but to my knowledge I didn't taste chickpea bread as yet. I

have made extensive enquiries these last times about good varieties of chickpeas in Russia, but there don't seem to be many. Here in the Caucasus we have only come across one variety as yet. We heard, however, in Batoum that there exists a very large one in Constantinople; perhaps you might try to get that through the Embassy there or through the Consul. The native races of the Caucasus use the chickpea but sparingly apparently, but the Persians, Turks, Armenians, who are all represented here by large colonies eat them quite much in soups and with meat stews. My assistant, who hails from Southwestern Russia says that they make a very fine puree soup from the chickpea which tastes much better than the ones made from peas or lentils. He also isn't acquainted with more than one variety. We will keep, however, these matters in mind and be on the look out.

I am very glad to hear that Mr. Aronsohn has succeeded in getting such a nice lot of money for his experiment station in Palestine. He may be of great value to us as a cooperator, although no doubt he will obtain much more from us, than we will be able to get from his country.

Letter of December 17, 1909, about difficulties in getting permits, etc. in Russia. Yes, a strange country this is. Privately the people are extremely kind, but officially, well, I better be silent until some other time.

Letter of December 24, 1909, about the collecting of herbarium material so as to be able to study new place effect.

Yes, I will try to do so. I am awaiting the description of the simple apparatus as used by Prof. Tellerman in Ohio. In this time of the year there is, of course, very little to collect except a few evergreens, later on the work will come, however.

About more and better photos, yes, a good idea. I only wish you could just have a try here in Russia. They are the poorest lot of photographers here in this land that I ever came across. They can't develop films even well. An ideal thing would be to have a professional photographer along with one who simply carried a complete outfit. Wilson's photos. Yes, I wrote you about them. He got the best possible assistance from a friend of his in New who is himself more or less of a naturalist and takes official plant photos at New Gardens. Wilson, however, kept his plates undeveloped for 2 years and therewith simply trusted to his good luck. In 9 cases out of 10 they would have been ruined and who knows really how many were ruined; Wilson always did things on a rather large scale and doesn't say much about details. In case the best of my Chinese pictures were enlarged and mounted like Wilsons, they would make similar impressions. I may say that the short focus lens which was fitted to my ordinary camera is not doing first class work out in the open; for indoor work or under conditions with very much reduced light it is far better. My new camera is being tried, we don't know yet how it acts, but it is a good one and I am getting acquainted with its qualities. About

photos taken in France or Germany bearing on the nursery business, yes I took about a dozen, but the little camera (Primoet) could not do good work in the dark weather that I experienced so much in Europe nearly all the time I was there. One had to give time exposures and I wasn't equipped for that while going around with only a suitcase. I wonder how you managed it in Scotland with such a similar apparatus. One really has to live for some time in a country to get acquainted with the peculiarities of its climate, light, etc., to be able to take first class photos.

My best congratulations to Dr. Woods and Mr. G.

Harold is well. My opportunities come fast these last times!

Letters of December 25, 1903, and of January 7, 1910,

with cards enclosed of the Boone College at Boone and of Mr. and Mrs. John Vermin of Tulsa, Okla. Yes, when in Tulsa again, I will try and see the parties mentioned.

Then, I see your remarks about preserving the land in Brooksville for the bamboos and the shipping of this bulky stuff. I wish I could do something too in that way. It is really more agreeable to plant something than to ship things off, often never to see them again! About Dr. Lubale, yes, in case he cannot reside in America, then, of course, he cannot be employed, but let us stay in touch with him, for he is one of the only specialists on bamboos on this globe of ours.

Now, you are trying to get Mr. Schultz to take up the Florida work. Well, it really is a shame that the so promising tropic work on the Canal Zone had to be abandoned! In case I was Mr. Schultz and I was really deeply interested in purely tropical cultures, I would resign from the Department and try to find employment with some private parties in the Canal region. It is really ridiculous that where so much good money is wasted upon useless things, that an experimental station in such a promising region cannot be maintained.

I see your note about no increase of salary being made to any one on the lump fund and yet ask for my opinion about this decision for so far as it affects me. Well, of course, I consider it rather strange; the more as I was twice slated for a promotion and many new men have been appointed of late at higher salaries than mine; also since I twice refused a position in China at a very much higher salary; the last position which the Viceroy of Manchuria tendered me through the American Consul at Mukden was for 40,000 per annum with 1500 per annum travelling allowances; for a period of three years. Then I consider that where Mr. Hills received 1400 per annum and Professor Hansen 3000, although neither of them did the real hard work I have been doing, that my pay really is not too high; for, exploration work, though appealing to the newspaper reporter and the public at large, really consumes a whole lot of one's surplus vitality and gives one relatively little comfort or the pleasures that men have who

live in a more cultured surroundings. I know in case I get a promotion, my daily allowance will have to be reduced and I will have to get hotel and inn bills again, but of course, we will have a few words yet about that item when it is that far.

Letter of January 10, 1910, in which you express your sympathy for the many delays to which I have been subjected. My deep thanks to you for these words! I really do not know why the Russian Government acted the way she did and I wish you would in some way or another let the Russian Ambassador feel that such things are not in the interest of Russian prestige abroad. The real reasons for these delays are most probably the laziness, corruptness and incompetence of the officials who have these permit matters in hand. Then another matter is that relations between our Embassy and the Russian Government are perhaps not as intimate as they could be, the personnel of the Embassy being, with one exception, quite new to the Russian capital. Then they say, that is, several men who know, that I ought to have given some smaller and larger notes to those with whom I had to deal. Well, I consider that such a low method in dealing with a white race that I never attempted that and anyway I had given the matter in the hands of the Embassy and could not very well go around privately. The idea given you by Mr. Reichard and Mr. Aaronsohn that my name is a Jewish name and that for that reason I had difficulties is bosh! Meyer is an old German and Dutch name and means agriculturist and is today still used in these countries in the word "Mejery" which is a dairy farm.

Besides, I had obtained a signed certificate that I was of the protestant faith, so this Jewish name idea can safely be discarded. I enclose herewith two letters of which I got hold. The one about passport regulations I got from our Consul in Batoum, Mr. Alex. Heingartner and in this letter it is expressly stated how one should go about in trying to visit Russian Central Asia and the other letter is only one of the many I got telling me to use bribery to facilitate matters. You may destroy the last one, but the first I would like to see filed, for information of those who may go again to Russia and its dependencies. I am not in Turkestan as yet and Heaven knows what troubles there will arise yet. I will keep you informed, however, even if it takes a long time for mail to reach me.

I saw the F.S. that Messrs. Finchot, Price & Shaw have been removed and perused also the newspaper clipping you sent. I am always very pleased to hear a bit of news like that for here in this dark land American news is as scarce as snow in midsummer. I have been wondering since, how the public has taken these matters. Is the love for the President on the increase? I just wonder!

Letters of January 11, 1910, announcing the receipt of my letters of December 23 and 24 with various clippings enclosed.

Letter of January 12, 1910. About Mr. Schultz's appointment in our office and in charge of the Florida work. Well, I had not seen this letter, otherwise I wouldn't have

made these remarks on page 5. All I can do now is to congratulate you again; you are a lucky man, Mr. Fairchild, lucky in many ways! Of Mr. Lehaie's wishes and desires I can say little now; yes now he would have been too high priced for our bamboo garden in Brooksville; later on he will probably come to terms and then we need him in earnest perhaps. You saw my notes on the Chakva bamboo situation, didn't you? Well, isn't that encouraging news?

Letter of January 17, 1910, with a copy of Mr. Ton's letter of January 13, as enclosure. I looked up this city of Sizran in the Simbirsk Government and see it is located on the Wolga close to Samara. As you know, I haven't been there yet at all and there is no likelihood I appear there unless all plans should change. I am keeping this letter with me in case I meet someone who can tell me more about that Bureau of Acclimatization and its activities.

Letter of January 19, 1910, telling me that Professor Piper and his staff will be very interested to test various Medicagos and Trigonellas I send in. Yes, I find out that although one finds some specimens in herbaria, to find plants and seeds is a most difficult work. Few, very few men can tell you much about the native hunts of these various leguminous plants and one's life is too short to spend a month perhaps in obtaining some seeds of a plant whose uses are only probable. I see your intentions of having Mr. Young arrange to send some things to the Botanical Gardens in St. Petersburg. You say, however,

seeds of the Saccharum narenga; well, I doubt if you can get seeds, I asked for some cuttings; some joints. That they want is a sugar cane for the Caucasus that can stand some cool weather and isn't as hard to grow as the real Saccharum officinarum, which needs a tropical climate to thrive. Our Georgian and South Carolinian varieties are just what they want and most of these are probably more S. narenga than S. officinarum.

Letter of January 19, 1910, telling me that Mr. Clarke is leaving our office and going to be a real farmer at Pierce, Texas. Good luck to the little chap! And now he wants a quick-growing plant that will make a good windbreak in the rather uncomgenial climate of Pierce. Well, I thought those evergreen roses in the vicinity of Pierce were almost like hedges for the cattle to take shelter behind. I would not suggest the Jujube. It runs far too much and becomes a very bad weed. Please tell him so before he tries it on a large scale. Bamboos are not good either, the cattle will eat every blessed shoot. Carobs will freeze and they are extremely hard to transplant and grow very slowly. Myrtus, I do not know it at all.

I suggest Citrus trifoliata first of all; it is spiny, semi-evergreen, grows fairly fast and makes almost impenetrable hedges. Toxylan pomiferum (Machura aurantiaca) comes next, it is too well known to say anything about it. Then Meditisia horrida and G. triacanthos follow. Here in the Caucasus they make fairly good hedges of the last and planted in a double row and properly.

cut back every year. In Northern Italy I saw much of wild
 composites and of wild Arums domestica. I suppose, however,
 that although both plants are spiny enough to keep men and beasts
 out, cattle might eat them in times of scarcity or fresh grass
 as is the case in Texas every so many years. It is a hard job
 to find suitable plants for Northern Texas, the temperatures
 are so enormously variable and within such very short periods.
 I will be on the lookout, however, for something good. Texas
 will have to look toward certain regions of Northern India and
 toward South Africa to find suitable plants. Wind swept sec-
 tions in general where great fluctuations in temperatures prevail
 will give her possibly good material in the line of plants, but
 as I said in my letters a year ago when coming back from the
 South: I don't believe there is one state in the whole Union
 that has so many problems to settle as Texas.

Letter of January 26, 1910, about wanting more infor-
 mation about the chickpea and telling me about the flour used in
 Italy. Well, I answered part of this letter already on page 12.
 In case I could have received your mail about this interesting
 plant while in Petersburg yet, I probably could have found out
 more about its general distribution in Russia. I am asking,
 however, here and there. Do you know that when at the Dry Land
 Agricultural Congress in Cheyenne last year there was a small
 exhibit arranged with it and a farmer from Wyoming had some
 chickpeas exposed as a curiosity, he didn't know their name

even and was much surprised when I gave him their name and told him they were an important feed in Spanish speaking countries. He said he didn't know what to do with them and fed them to the cattle! I suppose you since received the sample package with triangular Cicer seeds?

My last sentence in the letter of January 4, 1910, that I will not be allowed to enter Russian Central Asia until January 14, 1910, meant that it would take the Russian officials all that time to inform the authorities at Krasnovodsk and perhaps other places that I was really on my way down to their localities of abode. Things do not go fast in this land. As you are seeing by the date of this letter, I am still here in the Caucasus. This land is fully as interesting as Central Asia and very less known. I hear about the existence of fine pomegranates of excellent table grapes, apricots, muskmellons, rare varieties of grains, wild drought resistant species of Amygdalus and Firus, etc. The Caucasus is perhaps one of the most interesting lands of our globe; neglected and unknown it is lying here, full of possibilities and full of problems, too!

Letter of January 31, 1910, about purchasing some books on grapes. Well, I sent you already a few in the box with grains and I hope to come across more. Petersburg is the place to get all things of this nature; the Russians have a very centralized system of Government. I also perused the interesting notes on things occurring in Bokhara as mentioned by Burnes, "Travels in Bokhara." I will be on the watch for paper produc-

ing plants. Here one only sees Russian or foreign made paper, native paper is apparently not known or too coarse to be had outside of villages.

Letter of February 8, 1910, informing me that Brown tail moth caterpillars were crawling out of a package when Dr. Howard received it. Well, the Lord knows how many people had handled that package. Perhaps the postal authorities themselves had examined various things. I will, however, refrain from sending live eggs by sample packages in the future. One thing pleased me, however, and that was that it was the first time I got notice that any of my shipments has been received. What became of the parcels I sent off from St. Petersburg, I don't know and things sent from Sebastopol haven't reached you apparently yet. I have written to Ambassador Rockhill, that in case parcels are being returned to the Embassy whether he couldn't kindly forward them to the Department in some official way or another. I retain all my postal receipts, however, and in case things should really go astray, I trust you will make a strong claim on the Russian Government through diplomatic channels.

Well, this letter of February 8 was the last one I received. Then there is a memorandum from Mr. R. A. Young dated December 28, 1909, about the Kellerman methods of drying plants with corrugated cardboards. Yes, I know this method. It is very handy, but one needs rather high temperatures to dry plants, the system being simply to have currents of dry,

warm air run through the channels left between the corrugated cardboards and thereby taking the moisture out of the plant material encased. One needs a rather large frame to set one's to-be-dried plant on, especially if one has to do it by a camp-fire. In Russian houses there are no free-standing stoves. They are brick stoves and form part of the house, the system being somewhat on the flue principle and it is very hard to dry plants in rooms heated this way.

I also received 6 postal cards dated as follows:

1 of December 17, 1909, telling me my letter of November 2, 1909, was received.

1 of December 17, 1909, that my letter of Sept. 26, 1909 was rec'd.

1 of January 8, 1910, that my letter of Dec. 23, 1909, was received.

1 of January 8, 1910, that my letter of Dec. 23, 1909, was received.

1 of January 27, 1910, that my letter of Jan. 10, 1910 was received.

1 of January 28, 1910, that my letter of Jan. 13, 1910 was received.

Then I got the following bulletins of Foreign Plant Introductions, No. 22, 23 and 24. They are always very welcome and contain bits of most useful information, beside keeping me somewhat in touch with what is going on in our office. Couldn't you kindly send me a copy of the detailed report that Mr. Nightingale made on his journey to the River of the Nine Windings. I only want to lend it from you, but as I was once advised to collect these teas there myself, I am very much interested in Mr. Nightingale's experiences there in the Szechow Province. Then, I see with great surprise that there are still new fruits

to be discovered, even in the Philippines, as Mr. Lyons' "find" seems to indicate.

Well, that is about all for this time. In fact I hope to get some more mail, but the farther I go the more difficult it will be to reach me and the longer time, of course, it will take our mutual correspondence to reach the addressees. My correspondence is much larger now than it used to be when I first went to China and there is no hope of it diminishing as long as I stay in this work.

Well, hoping you can wade through all this scribble, I remain as always,

Yours respectfully,

MARK A. WILL.

Tiflis, Caucasus, Russia,

March 18, 1914.

Dear Mr. Fairchild:

Yesterday and today I have been sending you again various samples and parcels containing seeds, cuttings and a sample of Soy coffee.

One registered sample is marked 1235a-1272a and contains 6 small packages of seeds.

Another registered sample is marked 1264a and has only seeds and pods of Gleditsia caspica for contents.

The third registered sample is a tin of coffee made from the roasted yellow soy bean and it forms a very tasteful and nutritive substitute for the real coffee. It is made by a firm called "Argot" at the Sta. Quirili on the railroad from Batoum to Tiflis. This so-called coffee is in my opinion better than Postum as sold in America and it may be that there is a future for the soy bean as a beverage producer.

The very large parcel is numbered 473-484 and contains cuttings and seeds of different things.

I enclose herewith all the inventory notes in duplicate and trust they will give all the information desired; a few numbers, however, I will treat yet somewhat more in detail.

No. 1264a, Gleditsia caspica may not be the true G. caspica, as there is an awful lot of confusion among the Gleditsias. It may be G. japonica, which may be synonymous with G. caspica.

1265a is the same May daisy as which I sent you plants under No. 472.

1266a is the same as 473 only they are seeds.

1267a is the same as 474, only they are seeds.

1268a is a beautiful form of the ever-green Strategus pyracantha, fit for the Southern United States.

1269a is said to be a fine native melon.

1270a is said to be a fine native watermelon.

1271a is a Sabal, low-growing and fit as a lining for paths and drives in southern regions.

1272a are annual buclavers, among which something novel may be found.

Among the Mulberry, -cides 473, 476, 477, 478, 479, 480 and 481 there are some rare original varieties which deserve great recognition in the semi-arid parts of the United States. No. 481 seems to be a very fine olive variety, even in which Fr. Inair of the office of Lombardy has been interested.

The No. 482, 483 and 484 are interesting poplars, the name of Populus alba pyramidalis is said to be synonymous with P. Holboellii, which however, is not the case, the trees although resembling each other, yet being quite distinct. These Nos., too, are fine for the mild-wintered, semi-arid regions of the United States.

Most of this aforementioned material went to go to Chico, in case there is enough Mulberry stock there for the Nos. 473-481.

Soon, I will send a lot of more, some relating to this material. With best of greetings, also to all in the office, I remain

Yours respectfully,

FRANK J. LUTER.

Tiflis, Caucasus, Russia,

March 16, 1910.

Dear Mr. Churchill:

Hewith. I am sending you by registered letter post, one package containing 30 photographs and 35 films numbered 457-514, inclusive.

The pictures were all taken with the new short-focus lens and are in the main over-exposed. I informed the photographers who developed my films that they were over-exposed, but they gave them a treatment as if they were the opposite. They are very inexperienced here in the handling of films and they ruined a few through carelessness. For printing too, they didn't have any of the better paper in stock and I simply had to submit to their own way. These photos were all made with the old 4x9 screen focus Kodak; these last days I have been working with the new "Tropen-Auge Klapp" camera and it seems to work all right.

I enclose hewith 1 film and 1 print of the little Frimmet camera. It is about all that was good from more than a dozen exposures. I am not sure that I will keep this little affair with me through all my travels.

I also enclose a P.C. which I bought in Yalta and is more or less of Botanical interest, as it shows Linus tauricum in its native haunts.

These last days I am somewhat tired and mostly because the interpreter isn't as handy a fellow as could be wished. He

never finds out anything for himself and besides that he hasn't much love to explore somewhat for himself and report me later on and I simply cannot tell him every little thing I want. And so we go on. After a couple of months both the interpreter and the assistant have to be back again in St. Petersburg and I must get me some new men enroute and experience with them the same troubles again as with the many people I have employed already on all these past journeys. Well, trusting that both this letter and the package with photos reach you in good condition, I remain, with best of regards, also to all in the office,

Yours respectfully,

FRANK N. MEYER.

Tiflis, Caucasus, Russia,

March 17, 1910.

Dear Mr. Fairchild:

Herewith I am sending you a package of plants marked 485, by Russian parcel post. I enclose herewith the inventory notes in duplicate and trust it is all the information desired.

I would like to see these laurel cherries being given to some good reliable nurseryman for testing and propagation. Perhaps Mr. Henry Wears would like to get them.

With best of greetings, also to those in the office,

I am

Yours respectfully,

FRANK N. MEYER.

Tiflis, Caucasus, Russia,

March 18, 1910

Dear Dr. Van Vleet:

Herewith again a sign of life from me. Just now I am wandering around in the Caucasus and find this to be a most interesting land. I suppose several of my shipments which I sent in via Washington have reached you already. There are beautiful pyramidal poplars to be found here, that will do well in California. I suppose you are still over your ears in work isn't it? Well, I conclude with best regards, also to Mrs. Van Vleet.

Sincerely yours,

FRANK N. MEYER.

Tiflis, Caucasus, Russia,

March 21, 1910.

Dear Mr. Dorsett:

Just a few minutes ago I came back from the Caucasian branch of the Russian Department of Agriculture where I had a long conference with the director, Mr. A. C. Kollon, all in German, of course, and when I was introduced to various botanists we had to resort to French, except a Mr. Taratinski, who was a few years in America and who speaks English reasonably well. But to fly from German to French and to English, with a little bit of Russian and Latin thrown in, makes one feel just a trifle tired. With you, however, I can just stick to good old English and even if I make my sentences once in awhile somewhat lurch, you will know what I mean.

Well, I still have to answer your good letters of December 11, 1909, and of January 29, 1910, somewhat more in detail, than one is able to do on a card. Yes, you told me quite a good many new things. For instance, I didn't know Harry Roberts had gone. Well, it is better for us; he was a quick worker, sure, but--not an accurate one, as I found out from sad experience, when he worked on my bulletin. And Dr. Mann, chief clerk to Mr. Fairchild. Poor Dr. Mann.

And this fa-mo-pan surprise. Lord, the prediction of Prof. Sargent that my pension was worth 100,000 to the American public may yet come true. But how much will the undersigned receive; not even a cent of pension, in case he gets mutilated! In this we are behind, Mr. Dorsett!

I saw your notice that the bamboo plants we sent to Mr. Tevis were very poor. Yes, no wonder. Mr. Tevis believes that bamboos can be imported from such a far-away land like Japan or China and then be planted straight away in the open in California. No wonder his plants look poor; the bamboo is one of the most difficult plants to transplant from a far-away region. If it weren't so, we would have had bamboo plantations all over the globe long and long ago.

Then, you ask me what I would think of planting the different varieties of bamboos from 10 to 15 feet apart, and putting concrete walls between them, to keep them apart. Well, that is a difficult problem. There are varieties that will submit to this, but there are varieties that won't. The very large and robust growing ones, like Phyllostachys pubescens, Ph. mitis, Ph. Guilleloi really need certain corners of a garden all to themselves and even then they will often run into one another. It may be that in the far future, when bamboo-culture really shall have become established industry in the United States, that we will plant 20 or 30 acres of each good variety and keep such pieces of land separated by a hundred yards or so of woodland or of tea plantation or the Lord knows what.

In your message of January 29, 1910, I saw that Dr. Woods has resigned and I noticed from the clippings enclosed that you fellows had quite a time of it. Dr. Woods certainly betters his position remarkably well and now he becomes his own "boss" more or less, a thing nearly everyone of us strives for in some way or another. You miss him, however, don't you?

Yes, so everything changes; who knows what I will find a few years hence, when I come back again.

Then Dr. Talloway has been sick, rather seriously as I understand; Dr. Townsend resigned, Mr. Powell promoted, Mr. Stubenrauch promoted, Mr. Peter Bisset appointed, Mr. Clarke resigned, Hy, Hy, what changes, eh?

I see your information concerning the Japanese flowering cherries. Sad, eh, after all this trouble of getting them. Could not some sections have been taken of each variety and been grafted? Very likely there were some unusual forms among them.

Your photos and clippings are always very welcome. It gives me a feeling I am still somewhat among you all. News of America is very scarce here, we live somewhat like in China. In case my interpreter wasn't such a rather narrow-minded chap, he would inform me somewhat more, but he doesn't. It is a hard job to find the right kind of co-workers; you will surely agree with me in that, don't you?

About No. 16921. Ka-mo-pan, yes, that is the real one. and I am much in doubt that 17172, which Mr. Breece fruited is really 17172. I personally think sections got mixed somewhat as has occurred a couple of times.

I perused your clipping about the weather in California. Lordy, they got it "in the neck" there around Riverside, eh? And you say Florida too got a cold spell. Do you know what we ought to do? Erect a range of mountains across the United States or rather make a couple of ranges, one just along the Great Lakes

and one through North West to the Pacific Coast.

Your copies of the inventory notes on pear and peach, Fr. Warner of London sent in, I received too. Thanks. I wonder why these pear and peach scions arrived in such rather good condition. Of course, my pear scions from Manchuria were also quite fresh when received in Washington, but--very few propagators took pains enough to make them grow. Prof. Warner himself admitted that in case he had them grafted in the greenhouse, they would have grown, but they only had stood in the open.

The large photo you enclosed showing the 10 acres of woodland cleared for plantings there in Brooksville is a very fine picture. You must have had a splendid apparatus with you, eh? I would like to have helped in setting these compasses out, the more as I carried part of them with me on my long and lonely journey from the Orient to Frisco, where I saw them so badly fatigued. The Globular headed willow, as it looks on the cemetery in Chico shows what an amount of drought it will stand, eh? Several people here in Russia have asked me what name this Salix has, but I am unable to tell them. There is some work yet for our botanists among my stuff.

Well, now a few items about my own life here. Oh stll, I find the Caucasus a very interesting land; in fact, it is one of the most interesting lands of our globe. To say that California has all climates of the world throughout the State. Well, here we have the very same. Deserts and humid coast sections, low hot valleys and frozen mountain regions, plains and

hills whatever you want. And fruits here, well, I have made pages of notes already and am still getting more. Mr. Rollet told me today of a grape of fine quality which can be kept for one year without being put in cold storage. I am going after that fellow. The Caucasus is much richer than Central Asia in all sorts of fruits and grains. It is a diamond in the rough as yet; the Russians are slowly cutting it, but there are many, a great many problems to overcome. This land is not a new land, where one simply can do as one pleases, no, there are many old races living here, cultured even some of them are, and one has to respect their feelings and often even be good friends with them. And the Russians themselves, being only in their first childhood stages, cannot after all, impress these people here with their superiority.

Today is Monday, isn't it? Well, Saturday I have been bringing some grains and beans, among them chickpeas in which Mr. Fairchild takes such an interest of late. In the course of a day or two I will ship you people that stuff in a large box. I do not know a jota as yet whether any of my packages reached Washington, but I surmise they must have. I hope things were not frozen or dried up but I wouldn't be a bit surprised if it were so; postal facilities namely are bad here, very bad!

This climate here in Tiflis reminds me of North China somewhat and of certain sections of the United States, like of Colorado. The air is bracing just now, the days are rather

warm, but the nights are cool. As shade trees, Joschia japonica, Populus Polleana, Ailanthus glandulosa, Meditsia triacanthos, Fraxinus ornus, etc. all do well; you sell all fellows that like dry air. In somewhat sheltered localities one finds nice specimens of Cupressus funebris and of Liriodendron laurocerasus. I got 5 plants of a variety of the last, which is perhaps hardy enough to be grown on Long Island. Well, but unexpectedly I am talking "shop" all the time and I guess I better stop.

Wishing you, Mother and Howard good luck and good health, especially, I remain

Very sincerely yours,

FRANK M. MEYER.

P.S. Excuse for paper which isn't all one sort, as I found out when I had almost finished.

Tiflis, Caucasus, Russia,

March 25, 1910.

Dear Mr. Fairchild:

Yesterday I sent you 4 bags with seeds by Russian registered sample post. They were marked 1236a and contain nuts of the Caucasian beech, Fagus orientalis (Lipsky). Most of these nuts ought to go to Chico for propagation, but it may be well to try a few in Brownsville, Texas, and to give Prof. Sargent some if he hasn't got these trees as yet in his Arbor-

etum. Mr. Son of the Forestry Department may also wish a small quantity.

Today I sent you again 2 bags with seeds, also by registered Russian sample post. They are marked 1287a and 1297a to 1299a. The contents are many and varied. The very greater part ought also to go to Chico, but as there are several vegetables fit for semi-arid climates, I trust those interested in our semi-arid regions will want their share from them.

Of No. 1290a a peculiar native Caucasian variety of eggplant, I kindly wish you would send Dr. Halsted some, in New Brunswick, as he is so much interested in eggplants.

No. 1296a, Pirus elaeagnifolia, may be a good stock for pears in arid or semi-arid regions. Mr. Mason will probably want to have all the plants that we can supply him.

Of No. 1300a, Paeonia Flokosevitschi (Lomakin) I wrote already on the inventory note that Mr. John Craig would be the best man to send it. You wrote me a letter two years ago that any species of Peony I met in China would be greatly appreciated by Mr. Craig and the Peony Society in Cornell.

I enclose herewith the inventory notes belonging to this shipment in duplicate and trust they will reach you in good shape.

Tomorrow I hope to ship a large box with grains and beans which I have been buying of late. There are also two large bags with chickpeas among the lot, but they are 2 different varieties.

I have had many interviews these last days with people prominent in Agriculture here in the Caucasus and I obtained a great many valuable notes in regard to rare and interesting fruits and grains.

The Director of the Tiflis Botanical Gardens, Mr. A. C. Tollow, was particularly kind to me and he gave me several seeds and a package of scions of good native Caucasian fruit trees. I have to write yet a special rapport about him, but you may safely put him down already as one of the best men I have struck in Russia, for so far as willingness is considered to enter with us in more close relations. He complained that, although they had treated Professor Hansen very kindly, he never even sent them a single note as to his whereabouts, etc. and that as a result, they didn't bother any more about collecting Medicagos or other fodder plants for which he was going to write them.

Well, I will close for the present. With best of greetings, also to all in the office, I remain

Yours respectfully,

FRANK P. FAY R.

Tiflis, Caucasus, Russia,

March 24, 1910.

Dear Mr. Fairchild:

Herewith I am sending you by Russian parcel post one package numbered 486, containing 25 small bundles of cuttings of various fruit trees. I obtained them from Mr. A. C. Tellow, director of the Botanical Gardens here in Tiflis. I am sorry they gave such small quantities of each of these things, but as it is a gift, I couldn't very well ask for more, the more as they themselves haven't got too much material of some of the plants.

The very large majority of these cuttings and scions ought to go to Chico for propagation, although I am afraid vegetation has started already in Chico to such an extent by the time this material arrives there that they may not be able to do much with it; I am leaving this over, however, to the good judgment of Mr. Dorsett, who knows Chico conditions and possibilities to perfection.

There are a few good things among this shipment, fit especially for mild-wintered, semi-arid sections.

The apricot "Novast" (No. 429) seems to be one of the earliest apricots of the world.

The apples 457 and 458 seem to possess excellent shipping and keeping qualities and were most highly recommended to me by Mr. Tellow.

The peaches 494 and 496 and 497 are also quite good.

I wonder how they will turn out in America.

Mr. Kearny will be interested in the Pomologates Nos. 706, 707 and 708, and Mr. Train of Pomology in the Malberries Nos. 754, 755 and 748, 479, 480 and 481 of a former shipment.

I enclose herewith the inventory notes in Arabic and they say that although this shipment is small quantity, it seems good in quality and is perhaps after all worth all the work bestowed on it.

I remain with best of greetings,

RESPECTFULLY YOURS,

WILLIAM A. LAMER.

Tiflis, Caucasus, Russia,

March 22, 1915.

Dear Mr. Birchalla:

Today I delivered to the railroad company here in Tiflis one large box with agricultural seeds; marked D. A. addressed on one side in Russian to the Agency of the North German Lloyd in Batoum and on the other side in English to Mr. J. H. Reosa, 2 Rector Street, New York, U.S.A. As I cannot see this shipment off myself I am asking Mr. H. H. Wingartner, our Consul in Batoum to kindly see this matter through and pay all charges. I am notifying the North German Agency in

Patron of this institution, Mr. Roosa of the shipment and requesting him to forward it to the Government in Washington at his earliest convenience.

I enclose herewith the notes pertaining to this shipment, all in duplicate. You will find 2 large bags of chickpeas among the stuff, Nos. 1275a and 1276a, No. 1275a may also be something interesting.

The beans Nos. 1276a-1280a, ought not to be tested on the experimental Arlington Farm, but to be distributed among settlers and experimenters in the semi-arid sections of the United States.

No. 1201a, a barley, black and white seed, may be of interest to Dr. Barr in his barley investigations.

The Potatoes Nos. 1201a and 1202a are probably valuable in these sections of America where there is only a small amount of rain in the growing season.

This shipment will probably not reach you until long after this letter, but I hope it will arrive in good condition.

With best of greetings, also to all in the office,

I am

Yours respectfully,

WILLIAM L. BARR.

P.S. I also enclosed in the above mentioned box with seeds, one small package of dry-roasted chickpeas as sold in shops here in Tiflis as a delicacy.

Also a sample of the dried fruits of Cornus mas, called

Kizil and which are used in meat stews, compotes and of which also a cider is made. They are a common article of trade here in the shops, but I am afraid they will never be of much value to us as they are too small.

A many-headed onion is also among this shipment, so as to show how these chaps look. I sent seeds under No. 1267a.

Then there is also a sample bag of dried apricots, as sold here in stores. These apricots have sweet, edible kernels and are mostly used stewed with raisins, with the mid-day meals, like we use vegetables.

When you find time, I would like to know what you think of the roasted chickpeas as a thirst-producer.

To facilitate the identification of this shipment I may say that the box contains the following numbers, 1273a, 1274a, 1275a, 1276a, 1277a, 1278a, 1279a, 1280a, 1281a, 1282a, 1283a, 1284a, 1285a, 1286a, 1287a, 1288a, 1289a, 1290a, 1291a, 1292a, and 1293a.

F.M.M.

Tiflis, Caucasus, Russia,

March 20, 1910.

Dear Mr. Fairchild:

This morning we arrived again in Tiflis after a four days' trip to Erivan. We got quite a lot of things there, mostly grapes, however, and the very best we could not all get this time.

I am sending you herewith 9 packages by registered Russian sample post. They are marked 711, 712, 713, 714, 715, 716, 1717, 718 and 719. I enclose herewith the inventory notes in duplicate. They all ought to go to Chico for propagation, but maybe it is too late for that locality. I packed the cuttings in damp, swamp-cypress-shavings and would be pleased to hear about their condition upon arrival. The region around Erivan abounds in good things, but I would need Armenian and Tartar interpreters, as the Russian language there doesn't go any more. The Caucasus is a very complicated kind of a land, very much like China in a good many respects.

Tomorrow I hope to send 31 varieties of grapes, some very good ones among them.

I remain, with best of regards, also to all in the office,

Respectfully yours,

FRANK M. MYER.

Tiflis, Caucasus, Russia,

April 1, 1910.

Dear Mr. Fairchild:

Herewith I am sending you by registered Russian sample post 2 packages marked Botanical Material II and Entomological Material.

The package with Botanical Material contains but two simple onions, but it would look rather strange if I put that on the label. I wish you would kindly show or rather give these healthy, but odoriferous bulbs to Prof. J. L. Corbett or to Mr. W. A. Tracy and ask their opinion about them.

In the package with entomological material there is a small bag with Algae and one with shells, both of interest to specialists in the Smithsonian.

Of the entomological material itself there are 6 small packages with various scales and other lovely? things. They will find their way to those interested in them. I enclose herewith duplicate notes of the shipment mentioned in my letter some hours ago and the notes on the samples.

Trusting all these matters reach you in good condition, I remain

Respectfully yours,

FRANK M. MEYER.

Tiflis, Caucasus, Russia,

April 1, 1910.

Dear Mr. Fairchild:

Herewith I am sending you by Russian parcel post 4 large packages. Three of them are marked Nos. 720-730 and contain 31 varieties of grape cuttings. The other parcel is

marked I and contains a motley number of things.

I enclose herewith the set of inventory cards, covering this shipment.

A few things are worth being paid special attention; there is, for instance, No. 721, the Shafai grape, which keeps well for 6 months and is a good table grape. No. 722, Chusaine, also a noted table grape of Asiatic origin; four varieties of "Kishmish", Nos. 723, 724, 725 and 726, all sweet, early ripening, seedless grapes.

The "Ashuri" grape, No. 727, specially recommended to me by Mr. Rollow for home use; Chalilon, No. 742, one of the earliest table grapes of this world of ours.

Of many of these grapes I obtained but scanty information and some of it may not be quite reliable, for we found a very incompetent man in charge, as the manager had been arrested for political matters, they say! I hope Mr. Husnarn will find some varieties of grapes among this lot that will be found first class export table grapes for California.

Three grapes which I wanted to get especially, but which were not to be had this time, were Raifi, a white table grape from the Ordobad district, keeping for one year; Landi, a white table grape from the Erivan district, also keeping for one year and "Schali", a grape from the Erivan district which stands more alkali than any other variety. We have to enter into correspondence with Mr. Rollow to get these things; next winter, perhaps.

Of the dry material there is the sample of black barley, No. 1302a, which is probably of interest to Mr. Derr.

1303a, the celebrated Saxaul tree has formerly already been introduced by Prof. Hansen, isn't it? Well, it is worth experimenting some more. The alfalfa, No. 1304a, is probably of interest to several people. No. 1306a, the famous Doona melon, seems to be of special interest.

The Nos. 1312a, Lepidium sativum?; 1313a, Rehman; 1314a, Marza, are of interest to me as I encounter them the first time in my travels. I would be pleased to hear later on what they really are. Perhaps you also might send a few of all of these vegetables to Wilmorin, Andrieux & Co., especially the last two numbers. The Arlington Farm is not the best place to test any new vegetables coming from a semi-arid section and taken into consideration the very poor results of all my Chinese vegetables have given there, I kindly wish you would test those vegetables in Chico or distribute them to settlers of an experimental turn of mind who live in the South Rocky Mountain regions.

Among the samples there are three varieties of hazelnuts and a fine sample of dried fruits of Prunus insititia.

Mr. W. A. Taylor will be probably much interested in them and I also wish you could kindly send a few of these dried plums to Professor U. S. Fredrick, Agricultural Experiment Station, Geneva, New York, who has asked me to be on the lookout for any species of cultivated Prunus I could collect. The raisins

are probably of interest to Mr. Wustmann; the black one is a rare variety.

The sample soy beans is for Prof. C. V. Piper and the Caucasian sweets, made from condensed grape juice, flour and nuts, will interest almost every one, but the viticultural section especially.

Well, this is about all for this time. With best of greetings, also to all in the office, I remain

Respectfully yours,

FRANK E. MANN.

Tiflis, Caucasus, Russia,

April 1, 1910.

Dear Mr. Wustmann:

Today we shipped the collected material and I feel somewhat more at ease again, for the shipping of parcels here in this land is always connected with difficulties; one never knows whether some forgotten rule won't be laid out of the dust again and one may go home again and unpack one's packages.

Well, there are several items that I have to note down in regard to what I have seen and heard here from various people.

First of all, my receipt here has been most kind. I should say I was treated almost with distinction by the various

men I met; they even published an interview I had with Mr. Girardin, the secretary of the Agricultural Society in the local papers.

Well, the best of all the men here is undoubtedly Mr. A. C. Hollow, director of the Botanical Gardens here. He is unusually well informed about the economic productions of the Caucasus, especially about fruits and promising wild plants, it was he who gave me the various fruit tree scions and cuttings I have been shipping these last days and promised to send anything in his power we want from him. He strongly wants to get into active exchange with us. The things he has to offer are Caucasian varieties of various domestic fruits, like of apples, pears, peaches, apricots, plums, grapes, pomegranates, etc., also seeds and plants of various native trees, shrubs and herbaceous plants. The Department of Agriculture here has a corps of Foresters all over the country and practically any plant described from the Caucasus can be gotten in longer or shorter time.

What Mr. Hollow likes to get from us are our Citranges, our hardiest varieties of oranges, our American chinquapins, our improved varieties of Chestnuts, our Miller persimmon and any improved native American Persimmon, a few scions of "Tamopan", seeds or plants of Ferns quinquefolia, also of Malus Sargentii, 1 plant of Pinus pungens or some seeds. Seeds of Comnaya Coulteri, of Dendromecon rigidum, Alpine plants from Colorado and California. Seeds of Pinus betulaefolia, also of Astragalus

adsurgens, budwood of say 1 of our best peaches.

Then, they do not receive any of our many publications and are willing to exchange with us. Mr. Rollov gave me 5 books, mostly dealing with varieties of fruits, which the interpreter is perusing now and making extracts from for my use here.

The publications Mr. Rollov wants most badly from us are those dealing with fruits and fruit culture in America, those dealing with dry land Agriculture, those dealing with Alkali reclamation and Alkaline problems and any literature we have about the soy bean and its uses.

I may say that some of the plants wanted are for the Botanical Gardens here, which are considered the best in Russia and I found Dr. A. Komine, botanist in charge, and Mr. Midjeffsky, assistant botanist, very nice people, too willing to show me various interesting plants in the garden or in the herbarium. This Botanical Garden is not very large, but it is most picturesquely situated and contains the largest collection in the world of native Caucasian plants and they are extending their collection all the time.

In case we send them live rooted plants, Mr. Rollov suggests the parcel post system, maximum weight allowed (international) 5 Kilograms; for cions, cuttings and minor things, the registered sample post suffices. Mr. Rollov says that in case the parcels are addressed Botanical Gardens, Tiflis, the customs house authorities do not detain them.

avel oranges, which were sent at Dr. Bessey's request some years ago had been received in perfect condition and they have several hundred trees now growing near Batoum, all coming from these plants.

Mr. Kollow also suggests that in case we need anything special, simply to write him a letter asking for it and in case we shouldn't get the thing within 6 months to write another letter. He promised me to send you seeds of Medicago latifolia, a very promising Caucasian alfalfa and will also collect seeds of various Leguminosae which are drought-resistant and show adaptations to colder plants. As a whole, I strongly recommend to keep in touch with this Mr. Kollow and to send him already some of our literature as a sign that connections have been established. He would like to have the correspondence carried on in German or in French; (English is rather hard on them here.)

Well, this is about all again for this time. We are as usual in trouble with the authorities here; this time it is about the passport of my assistant, which has run out and the so-called officials are too inactive to give him a new one; we have carried the thing up to some Colonel in charge of such matters and likely it will be settled within a day or two. I was also nearly arrested in Tiflis for looking with my field glass at some scenery, but after some "pour parlers" matters were settled again. A truly sad condition prevails throughout

this broad land, called Russia.

With best of greetings to you all, I remain

Respectfully yours,

FRANK H. MEYER.

Tiflis, Caucasus, Russia,

April 2, 1910.

Dear Mr. Fairchild:

Last week I visited several seed stores here in Tiflis and bought some small quantities of Caucasian vegetable seeds, but with the exception of a couple of things, the stores here import all their seeds from abroad. There is, however, a nurserman and seed dealer here, K. P. Kwees, by name, and he is willing to collect for us agricultural and tree seeds in small or large quantities. I made an arrangement with him by which he will ship you first samples of all interesting things he gets hold of and will state with them their price and quantities. He would send within a week or so samples of black and naked barleys, which he knows of in some villages here in the Caucasus and I hope we can establish connections with him, like we have with Turner & Co. in Moscow. He is also willing to collect tree seeds for the American trade in large quantities and I enclose herewith his list in triplicate. There are a number of interesting things among them and as there are 3 lists

anyway, I wish you would consult some American nurseryman about there being some desiderata for the American nursery trade among that list of names.

I also sent you under separate cover the vegetable seed catalogues of Twees; also one of Larchet, another seed firm in Tiflis, which is considered the best here; together with these two catalogues, there is also a list of wheats occurring here in the Caucasus which list may be of interest to Mr. Carleton; I had an extract made from it by the interpreter for my own use here. I may say, however, these wheats seem to be hard to collect. Dr. Gironoff himself said that one most times has to go to the villages to get seeds.

Then, I made the acquaintanceship with Dr. Schmidt, the director of the Caucasian Museum here, a very small man, but--with a most remarkable brain and memory. He told me among other things that in Tiflis and Trebizond (Asia Minor) there are varieties of Prunus Laurocerasus cultivated for their fruits, which last are large and sweet and are considered by the Turks to be a specially fine fruit. They also make a delicious compote from it. This information is new to me; I have eaten the fruits of the ordinary varieties, but the kernel is large and the meat but little, they are like a large choke cherry and have even the same flavor; these large-fruited varieties, however, may be fine for preserves especially. Dr. Schmidt recommends also to go to test all the native Caucasian species of Prunellus; there are 53 of them and some he saw wild looked very promising for future plants. He recommends Prunellus

resupinatum as a lawn plant for the delicious perfume its flowers exhale.

Then I saw a Mr. Lindeken, Government Agronomist here, in charge of sub-tropical cultures. He told me that the real home of the fine hazelnuts is Asia Minor, especially around Trebizond and Nevsehir, there are some fine varieties there yet that haven't been introduced and it is very difficult to obtain plants as the Turkish Government has prohibited their export. They can only be smuggled out of the country. I saw an interesting publication of hazelnuts; "Die Haselnuß, ihre Art n und ihre Kultur." Franz Giesbrecht, Berlin, Paul Parey, 1887. I suppose we have it in the Departmental Library, too, I wonder if Mr. Baylor knows it. I also heard from Mr. Lindeken that there are some very fine hazelnuts grown in the sub-tropical climate in Chankaya. He said there are large clumps of Abutilon millieri, Abutilon millieri, and Abutilon aurum scattered here and there in the Caucasus and the people begin to make light furniture from it. All these I mentioned hazelnuts have stood nearly 10 to 12 years here in Chankaya and were not killed. They have great cones here for the hazelnuts as an all-round variety. Mr. Lindeken said that the culture is beginning to take hold among the natives round Batum and they find it profitable. The Government intends to build factories as soon as the supply gets to be big enough to warrant the rather large outlays. When I was informed by a gentleman named Dietrichs, who has travelled pretty much all over the world as an inspector of landed property, that I was

iron, iron wagons, carts, baggage and harness, etc., were the lightest and best in the world and we were sure it was impossible to obtain such in Russia. We strongly suggested that some enterprising American firm should open an establishment somewhere in Russia; Moscow we thought would be the best place to found the central sales shop, branch houses could be established later on. Do you think it is worth bringing this information to those who could do something in this line?

Well, I will close again. Tomorrow I hope to leave for Kislovodsk on my road to Sam, but I think I will return again here to ship off material I will get there and I also have to look out for another interpreter, or that I get some information.

With best of wishes, I remain

Yours respectfully,

FRANK E. SMITH.

Tiflis, Caucasus, Russia,

April 12, 1910.

Dear Mr. Churchill:

Yesterday we came back from a ten days' trip to various places in the Western part of the Caucasus and I am

sending you a parcel this day that we found.

There are 3 large parcels marked NAI, D.I. II, and D.I. III, containing roots, cuttings and seeds, numbered 750-768 inclusive. Then there are 3 Registered Samples numbered 769, 770, 771, containing Raisins, Corns and Peas.

As usual I would like to see most of the material go to our Garden in Chico, as the climate there suits the majority of these collected things better than in Washington. A few things are of special value. For instance, the different varieties of pomegranates, Nos. 762, 764, 765, 766 and 767. They come from the most celebrated pomegranate region from the Caucasus and are considered really good things. They will do well in Texas and the Southwest.

Then, there are the various Malicagos, Nos. 750, 757, 758, 759, 763 and 764. There is probably something good among them and I recommend planting them all. For No. 755 a native variety of plum, it may be too late, but I thought I had better send it just the same. No. 769, the real Paradise apple will interest Mr. Taylor and perhaps the others, too.

Of grape vines I was unable to obtain any this time. The grape vine plantations of the Tartars and Russians in the vicinity of Elisavetpol have so many varieties of grapes mixed, through one another, that one really doesn't dare to send anything at all. We have to get certain things set through correspondence.

I found some very pleasant people on this last trip, of whom I will write in a next letter. I also had a slight accident, our cart being thrown over through the wheel touching a rock; I am bruised here and there but with some rest will soon be all right again.

To my surprise I didn't get any mail, but today upon making investigations, my interpreter was told my mail had been sent to Batoum on account of a telegraphic request from the American Consul in Batoum. I have written about explanations.

I am sorry to say I did not find a suitable new interpreter as yet. I am in hopes, however, to find a good man yet.

Enclosed please find the inventory notes belonging to this shipment in duplicate.

With best of regards to you all, I remain

Respectfully yours,

THOMAS H. BRYAN.

Tiflis, Caucasus, Russia,

April 16, 1910.

Dear Mr. Fairchild:

Today I am sending you, by Russian Registered Sample post two small packages containing entomological material marked I and II.

I herewith give a list of the general contents.

1. Caterpillars nest on Pirus salicifolia, near Geok-Tapa.
2. Caterpillars nest on Pirus salicifolia, near Tiflis.
3. Caterpillars nest on Crataegus oxyacantha, near Elisavetpol.
4. Insects' nests on Cotoneaster sp. near Tiflis.
5. Scales on Frunus sp. near Helenendorf.
6. Scales on wild rose, near Helenendorf.
7. Scales on Pirus communis, near Helenendorf.
8. Scales on Rhamnus, near Helenendorf.
9. Scales on Rhamnus, near Elisavetpol.
10. Galls on Ephedra vulgaris, near Geok-Tapa.
11. Galls on Tararix sp., near Elisavetpol.
12. Galls on Caragana caucasica, near Elisavetpol.
13. Galls on Artemisia sp., near Elisavetpol.
14. Galls on Artemisia sp., near Helenendorf.
15. Cocoon on Paliurus aculeatus, near Tiflis.
16. Cocoon on Caragana grandiflora, near Tiflis.

Each of these packages has a label inside and I hope there may be something of interest among them.

With best of greetings, I remain

Respectfully yours,

FRANK A. MEYER.

Tiflis, Caucasus, Russia,

April 19, 1910.

Dear Mr. Fairchill:

Herewith I am sending you my accounts for the past quarter, January 1 - March 31 (inclusive) 1910. Would you kindly turn them over to Mr. Estabrook who may assist in straightening out such matters are not quite correct.

To my regrets I didn't receive as yet any statement as in what shape my last accounts were found and I have as such no guide in the making up of this one.

I will give a rough sketch how my finances stand now.

Expenses for period of August 1 - Sept. 30, 1909	731.24
" " " " Oct. 1 - Dec. 31, 1909	1375.00
" " " " Jan. 1 - March 31, 1910	<u>1750.00</u>
Total (Roughly)	3850.00

Now I will get the trouble of paying the railroad fares back from somewhere here to St. Petersburg of both my assistant and the interpreter, but still I do not think my total expenses will be more than 5500 and I think you may count on a sum of about 500 dollars which I won't expend, unless, of

course, something very unusual or unforeseen should arise, like the coming back of me or something of such a nature.

I enclose herewith some vouchers and bills which may be either of use or may be not, according to what Mr. Estabrook decides. Soon I will send my itinerary report, too, for which Dr. Mann asks me.

Well, hoping these financial matters will be found to be in good shape, I remain

Yours respectfully,

FRANK L. MEYER.

Tiflis, Caucasus, Russia,

April 19, 1910.

Dear Dr. Mann:

The day before yesterday I received among a pile of mail also your letter of March 11, 1910, in which you request me to make out my itinerary report for the months of January, February and March, 1910. I hope all this delay of mail not reaching me is not going to cause you great inconvenience, but I really thought it was not necessary for a fellow, travelling like I do, to make out such reports, at least when I was in China it was not wanted from me and I just wonder whether other explorers have ever been doing it. Well, I enclose herewith such a report and hope it is detailed enough. Would you

later on kindly let me know whether such a three month's report is sufficient or whether shorter period ones are needed.

And here it goes:

Field Itinerary Report from Frank N. Meyer.

For the period from January 1, 1910 to March 31, 1910, inclusive.

Sat. Jan. 1, 1910. Putting last touches to packing in of baggage.

Left St. Petersburg for Moscow in afternoon.

Sun. Jan. 2, 1910. Arrive in Moscow.

Mon. Jan. 3, 1910. In Moscow. Went to Inner Co., a well-known seed firm, had conference, went also to Botanical Garden.

Tues. Jan. 4, 1910. Went to the College of Agriculture and saw several men of importance there.

Wed. Jan. 5, 1910. Saw Prof. Golenkin at Bot. Gardens in Moscow and various other rare delicacies.

Thur. Jan 6, 1910. Saw Mr. Engel again of the seed firm of Inner Co. Left at night for Sebastopol, Crimea, by R.R.

Fri. Jan. 7, 1910. Enroute, very cold (28° below zero Fahrenheit).

Sat. Jan. 8, 1910. Enroute, " " " " " "

Sun. Jan. 9, 1910. Arrived early in the morning in Sebastopol.

Afternoon went out in neighboring mountains.

Mon. Jan 11, 1910. In Sebastopol, attended to correspondence.

- Tue. Jan. 11. Collected seeds and scions of wild plants in mountains near Sebastopol.
- Wed. Jan. 12. Described and packed collected plant material.
- Thur. Jan. 13. In Sebastopol, made accounts in shape and re-packed baggage.
- Fri. Jan 14. Left Sebastopol by cart for Bouchaja Metoka, Crimea. All day en route, collecting plants & seeds.
- Sat. Jan. 15. All day en route for Baidari, collecting plants and seeds while enroute.
- Sun. Jan. 16. Left for Kirikinsk, all day en route collecting plant and seeds.
- Mon. Jan 17. Left for Yalta, all day enroute, collecting plants and seeds. Arrived at sunset in Yalta.
- Tue. Jan. 18. In Yalta, assistant ill; packing in collected material.
- Wed. Jan. 19. In Yalta, assistant ill; Great Russian Holiday, Post office closed. Correspondence tended to.
- Thur. Jan. 20. In Yalta. Plants shipped off and for supplied hunted.
- Fri. Jan. 21. In Yalta, plants shipped off. Correspondence attended to.
- Sat. Jan. 22. Went to the Botanical Gardens at Piskita and back to Yalta, collecting plants enroute.
- Mon. Jan. 23. Went to Botanical Gardens at Piskita and to experimental vineyard.
- Tue. Jan. 24. In Yalta. Morning, shipping and receiving of

- collected plants.
- Wed. Jan. 26. In Valta, packing, and shipping of plants. Correspondence attended to, baggage shipped off. Left at night for Agri.
- Thur. Jan. 27. Aboard the steamer on the Black Sea.
- Fri. Jan. 28. Aboard the steamer on the Black Sea. Collected plant material in Novorossia, Caucasus.
- Sat. Jan. 29. Landed in afternoon in Agri.
- Sun. Jan. 31. Collected plants near Agri, had a conference with the Prince of Lidenburg about Caucasian products.
- Tue. Feb. 1. In Agri. Collected plants in mountains.
- Wed. Feb. 2. In Agri. Collected plants in mountains and packed them.
- Thur. Feb. 3. In Agri. Packing, shipping and describing of collected material.
- Fri. Feb. 4. Left Agri for Zjepp, collecting plants enroute all day.
- Sat. Feb. 5. Left for Chorz., collecting plants enroute.
- Sund. Feb. 6. Left for Kovai Avon, collecting plants enroute.
- Mon. Feb. 7. Left for Souchour Ale, collecting plants enroute.
- Tue. Feb. 8. In Souchour Ale, heavy rains, Collected material. Repacked.
- Wed. Feb. 9. In Souchour Ale. Visited Botanical Gardens and met different people.

- Thr. Feb. 10. In Bouchoun Kale, visited experimental fruit garden and tried to collect packing moss.
- Fri. Feb. 11. Visited various estates near Bouchoun Kale.
- Sat. Feb. 12. Went to Ginops near Bouchoun and bought packing moss.
- Mon. Feb. 14. Repacked baggage and collected material and attended to correspondence.
- Tue. Feb. 15. Visited the Prince Dmitrovi vineyards near Bouchoun and collected grape vine cuttings there.
- Wed. Feb. 16. Went to Dioscouria near Bouchoun and collected there fruit tree cuttings.
- Thr. Feb. 17. Packed in collected plant material, made notes, put numerous baggage in order and left in evening by S.S. for Batoum.
- Fri. Feb. 18. In Batoum, packing and shipping collected material.
- Sat. Feb. 19. In Batoum, visiting various people and shipping offices.
- Mon. Feb. 21. In Batoum. Heavy rains. Shipping of collected material.
- Tue. Feb. 22. In Batoum. Heavy rains. Correspondence attended to. Maps pasted, box repaired.
- Wed. Feb. 23. Went to Charva near Batoum, inspected tea and bamboo plantations.
- Thr. Feb. 24. In Batoum. Bought seeds and grains on market and went to Charva, Linchoff, seeing various botanical collections.

Fri. Feb. 25. In Batoum. Bought seeds in market, packed and described them.

Sat. Feb. 26. In Batoum. Shipped boxes with seeds to S.S. office and attended to correspondence.

Mon. Feb. 28. In Batoum. Shipped collected plants. Packed baggage and left for Kopetdari in afternoon.

Tue. Mar. 1. Collected in the morning fruit tree scions and seeds in Kopetdari. In afternoon visited experimental vineyard in Quirili and collected cuttings of grape vines.

Wed. Mar. 2. Arrived in Tiflis, visited various stores and bought supplies.

Thur. Mar. 3. In Tiflis. Packed and described collected material.

Fri. Mar. 4. In Tiflis. Shipped collected material and attended to correspondence.

Sat. Mar. 5. In Tiflis. Visited Botanical Gardens and saw various people.

Mon. Mar. 7. In Tiflis. Tended to correspondence.

Tue. Mar. 8. In Tiflis. Visit to Botanical Garden and herb rium and inspecting the Botanical collections.

Wed. Mar. 9. In Tiflis. Packed and described collected material.

Thur. Mar. 10. In Tiflis. Correspondence attended to.

Fri. Mar. 11. In Tiflis. Correspondence attended to.

Sat. Mar. 12. In Tiflis. Visit to Agricultural Society.

Mon. Mar. 14. In Tiflis. Conference with various agricultural specialists.

Tue. Mar. 15. In Tiflis. Packed and described collected plant material.

Wed. Mar. 16. In Tiflis. Correspondence attended to.

Thur. Mar. 17. In Tiflis. Correspondence attended to and nurseries visited.

Fri. Mar. 18. In Tiflis. Correspondence attended to and packed and described collected plant material.

Sat. Mar. 19. In Tiflis. Grains and seeds bought and packed.

Mon. Mar. 21. In Tiflis. Packed and described collected material.

Tue. Mar. 22. In Tiflis. Shipped collected material. Correspondence.

Wed. Mar. 23. In Tiflis. Packed collected seeds. Correspondence.

Thur. Mar. 24. In Tiflis. Shipped off large box with seeds.
Correspondence.

Fri. Mar. 25. In Tiflis. Correspondence attended to, baggage repacked.

Sat. Mar. 26. Left Tiflis for Erivan at noon.

Sun. Mar. 27. Arrived in Erivan. Visited experimental garden.

Mon. Mar. 28. Collected grape vine cuttings and seeds in Erivan.

Tue. Mar. 29. Left Erivan with collected material.

Wed. Mar. 30. Arrived in Tiflis. Packed and shipped collected material. Described it on notes.

Thur. Mar. 31. In Tiflis. Correspondence attended to.

Respectfully yours,

FRANK M. DYER.

Tiflis, Caucasus, Russia,

April 20, 1910.

Dear Mr. Fairchild:

The day before yesterday and yesterday too I have been receiving a whole lot of mail and I will try to answer some of your questions at the very earliest.

Well, first why my mail hadn't been kept here by the post office officials. That is a real Russian story. Firstly, it seems that our Embassy in St. Petersburg never received my telegram from Batoum telling them to retain mail until later on and they kept on forwarding my mail to the American Consulate in Batoum until they got my letter informing them to send it to Baku. Then they sent some there. When we wrote the postmaster in Baku to forward our mail to Tiflis he did so, but a telegram was received by the post office in Tiflis from the American Consul in Batoum asking them to send my mail again to him; they did so and now I find upon inquiry from our Consul in Batoum that the Russian post office officials only have mixed up the names of Teer and Schneider, they resembling somewhat in sound one another and it was for mail of the last name that the Consul had wired. It seems, however that some of my mail has become lost during all this going to and fro and I am the loser.

Now I come to some of your letters; viz., the one of March 2, 1910. About some seeds of Prunus japonica, collected at Chelsea as you say. Well, I ate some of the fruit's mail I

Shanghai, Shanghai, China.

Rev. Dr. W. H. Hayes, Shanghai via Kiangsu,
Shanghai, China. American Presbyterian Mission. (A very good
man, who we send along with goods of the London Mission.)

Rev. A. C. Lewis, Church of England Mission, Shanghai,
Shanghai, China.

Rev. J. B. McWhorter, Educational Association of
China, Shanghai, Shanghai, China. (You have been already in
communication with him from Washington.)

Of this list I think Dr. Hayes is the best, then
follow Dr. Chas. Lyon; Rev. W. H. Hamilton; Rev. J. B. Morgan;
and Lewis and Lewis.

I hope you will succeed in getting the goods over
in South China. In case I myself return again to the United
States, I will make it a point of getting some good varieties
of this northern ginger. If I were living in the colder por-
tions of the United States, I could have no ginger at all, just like
one has his sweet potato garden. The Chinese and about the
same storing treatment as sweet potatoes, but as far as absence
of cold is considered, but they do not store as long as their
period of rest.

In my Bulletin I also wrote something about the ginger
in North China.

Letter of February 1st, 1910, giving me a few notes
on how small, slender some of Myodinus and Myodinus were good

stocks when grafted to almonds, as of the experience of Prof. Mason. By, that is interesting! I never thought that, because we graft the pear on the quince, with the result that the pear remains considerably smaller as when on its own roots and there is always a considerable difference in size between scion and stock. When I come back some of these pears I would like to see more of Professor Mason's work in these lines. Please tell Mr. Swingle not to be afraid I won't send in interesting forms of Iranus and Amadulus I meet, only I would like to have Mr. Swingle write me sometimes something, so I may be better informed and better be on the lookout.

Letter of February 20, 1910. About Mr. N. N. Dymitro-
vich, Agricultural Commissioner of the Russian Government, having
called on you. Yes, I knew from several people here that he was
in America. He is going to have quite some power. About the
interesting variety of grape growing in the vicinity of Elisavetpol
yes, I knew of it and the cuttings of it have reached you since,
its proper name is 'Gairish, but Handja, Gandja, Blanc de Gandja,
these are all synonyms for on account of the many languages in
the Caucasus the productions too have names in legio. The red
variety of seedling grape of which Dr. K. speaks, too, is "Lizil
isicoun". We were not able to get it this time. I have spoken
already about this fact to Mr. A. C. Follow here, who will try
to forward it next winter to us.

About this interesting collection of grapes near Yalta,
no we were never informed about it, perhaps it doesn't exist any

any longer. The Botanical Garden at Nikite, however, possesses a very large assortment of grapes, but unfortunately they had no cuttings to spare of certain rare varieties, I wanted as I wrote you in my letter about it. I am writing Mr. Kalaida about the Peregovsky collection of grapes and also about records of their temperatures. Mr. Kalaida and his assistant, an old gardener, both testified that temperatures in the garden had gone down as low as 15° below Reaumur, nay even 16° but that was nearly 30 years ago, when all the large Laurus nobilis and many other plants were frozen to the ground. I still saw the results of that freeze on old Laurel clumps. I see your note re Agricultural Society in Kharkov, Southern Russia, for pure alfalfa seeds. I will see Mr. Kollow about this too and let you hear later on.

I also notice what Mr. Kryzhtofovich says about the Peregovsky collection of illustrations of the best grape varieties in St. Petersburg. You say: "If on your return to St. Petersburg you find time to look at those plates, etc." Do you think there is much chance for me to return there?

Letter of February 25, 1919. And this Cicer of which Mr. Engel told me so much is after all only a Lathyrus sativus; I also see the inventory list that the statement of Mr. Engel in regard to this legume as producing 500-600 goods per desertine had only been magnified 10 times!

Letter of March 4, 1910. About the olives of Likita.

As I said already, I am writing Mr. Kalaide for more details of his olives. On your questions I must say this: The Russians in the Crimea know very little themselves about these hardy olives. They found them there when they annexed the country, they are survivals of ancient Greek plantations and only the hardiest have remained. The trees produce large fruits, but are not as productive as some other varieties; the fruits are nearly always used salt-pickled. There is not enough of them to use them for oil production. You ask if these trees are so valuable why have not the Russians propagated them and planted small plantations in the Crimea, Yes, why not? The Russians are not as energetic as other nations and they could do many a thing others have done long ago, but----- Well, to be less severe, there are after all few places in the Crimea where the cold is occasionally not too severe on olives and as such, people plant but little of them. Then these olives are not named as yet and apparently not described, and therefore rather difficult to disseminate.

You want my opinion as to the advisability of disseminating widely such a variety for trial. Well, my opinion is this, let us first test them ourselves in several rather uncongenial localities and then afterwards we can give the public some, but not now as yet.

About photos of them, I sent you three, nos. 457, 458 and 459. I hope they reached you since.

Letter of March 7, 1910, containing copy of the two letters Dr. W. A. Murrill sent us regarding fungi I collected. Thank you for the information. I also got the cards regarding fruits in Bokhara (Burnes Travels in Bokhara) furnished by Mr. U. P. Hedrick of Geneva, New York. Strange! Mr. Hedrick thought of us and I of him in asking you to send him some specimens of the dried fruits of *Trunus institia* from Erivan.

Letter of March 21, 1910, re Medicagos to be found and especially to make herbarium material of them. Yes, now that the season of shipping live material is drawing to a close, I will have more opportunity of collecting herbarium specimens. I have bought already a good supply of paper and pressing forms and have collected already a few nice plants, like Pirus salicifolia in bloom, various Juniperus, Caragans, etc. About Mr. Cook's outfit for Egypt and Palestine, yes, I will be very much interested in it. I hope, in case you send some samples, that they will reach me, because it seems that samples and printed matter do not reach me readily.

No, I know you are all right in remembering me once in awhile what new things they expect of me; I got, however, a letter from Mr. Dorsett, in a sort of paternal tone, about sending photographs along with shipments or shortly after them. Well, this shows he never was in regions away from civilization and I will have to accept it in that way. Between you and me, however, I feel as you probably have felt, too, that the office of an agricultural explorer soon will cease to be a one-man proposition

and that the work will have to be split up between a trained photographer, an economic botanist and an administrative and executive clerk, and such men have to have the knowledge of a few languages, besides being hardy and of happy dispositions.

Letter of March 21, 1910. Yes, I would like to see how things are getting along in the office. You got ever so much better people now as when I was in China, when a name-sake of mine was ruining my plants in Mexico and others didn't care how things went along. Let us hope we will keep it up and improve besides.

You don't quite like it that I am moving about in a mild-wintered region as the material found will be of value only to the more southern parts of the United States. Yes, that is so more or less, but then we have a state of Texas where many of the things I am finding now will feel at home and the drought-resisting species of Liriodendron and Juniperus are of great value to the semi-arid sections of our Great Land.

That I hope to round up, as you say, some especially hardy things, yes, that is my wish too. But--how much time have I left yet? I do wish you would give me your private opinion how long I will have a chance to be kept out in the field. If it be short, then you know pretty well what I will do. If it is long, I will stick to it, notwithstanding all sorts of inconveniences.

I am very glad Dr. Talloway is improving so finely and that he really has seen what our office has been doing in

Southern Florida. I never liked to see the Miami Garden given up like a worn-out pair of boots, we are in America so very much behind in the matter of having collections of live plants, that a South Florida Botanical Garden could safely be established.

I saw the clippings you kindly sent about the fight in Congress. No, we have no Associated Press despatches here in this land and American News is as rare as shot in May, so it is always very welcome. Anything about Col. Roosevelt interests me, too. I see he returned safe and sound from Central Africa and is now in Europe.

Letter of March 20, 1910. About my tea-letter reaching you some days before. Had it was of interest enough to have it copied, poor stenographers, my sympathy to them!

Then I received 9 postal cards, dated February 20, March 4, March 7, March 14, March 17, March 19, March 26, March 26, and March 28, 1910, all announcing receipt of parcels samples and mail. It seems that my shipments are reaching Washington in fairly good time and in rather good condition. I am also in receipt of the Bulletin of B. B. I. Nos. 25 and 26. No. 27 hasn't turned up as yet. There are as usual several interesting things in them. Messrs. Perkins & Hollis are sending quite some good things, I see. My observations, too, occupy a good bit of space; and the Doctor, Lamberton and Pooleman are at last really introduced? There are some

to plant them; what a pity the Bureau proposition has fallen through.

There is one number 26648-049, Fraxus sibirica, Meyer's introductions. Well, I haven't got the slightest notion what this is. I never sent anything of this nature from Steglitz near Berlin.

There is one Iwai Yuan district in China where those pomegranates came from (26794-797). I never heard of such fine pomegranates in China. What is the botanical name of the pear-rose plant of North Korea, W. J. G. Richards sent its seeds to me?

I hope to get some more mail yet these days collecting a lot is lost and in case there were letters of importance in some of these letters I will surely feel their loss. In reply to the financial letter covering my accounts for the period of October 1, 1909 to December 31, 1909, doesn't reach me within one week I will have to ask you for another copy of it.

I haven't found a suitable transporter as yet, I am in correspondence with one and Mr. Hollow will look out for me, too. I also will send you some seeds yet, within a day or so and after that I hope to leave for Jiatigorsk to the North of here where a successful forest collector of plants lives, the Angus transporter will and he may be willing to go with me. I want a somewhat experience in the same local conditions, for otherwise one has to find out difficulties. I will send some more from my next collection, especially the fruit and leaves

1880.

Chilid, N. 1880, 1881, 1882,

April 22, 1880.

Dear Mr. Fairchild:

Herewith I am sending you for Russia parcel 1880
2 packages marked D.A. I, D.A. II. They contain 1. separate
packets and bags of seeds, Nos. 1313a - 1320a, inclusive,
and one sample of very long, blue beans.

I had expected to keep the seeds until I could fill
a large case full, but I didn't find much of interest in the
line of grains and legumes in Elisavetpol and vicinity and
conclude now better to ship things off.

I enclose the inventory notes belonging to this
shipment in duplicate and trust they give the information
desired. About this Russian alfalfa, did Professor Hansen
introduce them already? I suppose it is well known however,
in America, isn't it? If, however, the statement I heard in
Elisavetpol should be true; viz., that it is much longer
lived than the Perfection alfalfa, then it is really a valuable
variety.

The beans, No. 1313a and 1320a, I would like to
see given special treatment. They ought to go out west
somewhere in the watermelons, muskmelons and cucumbers, too.
The Arlington farm is no place for things coming from these
semi-arid climates here.

In the Pittscho nuts, No. 1321a, Mr. Swingle may
be interested and in the Peas, No. 1322a, and the wheat,

1001.

No. 1330a, Mr. Carleton.

I enclose herewith a traveller's note about Turkestan, which I found in duplicate among my notes.

Hoping this shipment reaches you again in good condition, I remain

Yours respectfully,

FRANK N. MEYER.

Tiflis, Caucasus, Russia,

April 24, 1910.

Dear Mr. Dorsett:

I am in receipt of several letters of yours which I will herewith answer in detail. There is one among them, dated February 16 , 1910, upon which I have to say something more than usual.

You ask me namely, whether it wouldn't be possible for me to send photographs along with the material, or in as short as possible a time after the material has been mailed. Well, I really thought you knew more about the way things go in some semi-civilized lands. If you had been, for instance, in Mexico so close a country to the United States, you would have found out that photographers are not as plentiful there as in America and that good photographers are as scarce as white crows. Well, here in Russia it is exactly the same. Photo-

graphie is still one of the new arts here and the workmanship of the very greater part of photos is simply abominable. In case it would be considered an absolute necessity to have photos go along with a shipment, well, then a competent photographer has to go along with a full outfit. I myself cannot do all things and I have baggage enough already, so that I decline to have all the paraphernalia with me that might enable me to develop, print, paste, etc. You will clearly see this, I trust.

Then you say, that you found out that the projects which are of prime importance are not sufficiently illustrated by photographs and detailed supplementary notes. Yes, such things are true, of course. My work is pioneer work in the real sense of the word. When you study the various things of this world, you will find out that nothing is learned in all details the very first time. One acquires one's knowledge by bits and pieces. About the Persimmons you will find quite some information scattered through my letters from the field and in the fruit section of my coming bulletin. And then, of course, I would like you to bear in mind that China and other Oriental lands are not the places where it is so very easy to obtain real solid information about crops and cultures. There are thousands of matters yet in China alone, on which more light is needed. We are after all only cutting out a few steps in the mountain of knowledge and others have to mount by our steps.

Well, this is enough about this matter. Some talks would be better for you and I, but of course, that is out of the question.

Well, now I come to your letters. There are 7 in all, dated February 12, February 18, February 21, February 26, March 2 (2 letters) and March 24.

The note of February 12 announces that my Nos. 388-404 inclusive have been received.

Letter of February 18 tells me that Nos. 370-376, inclusive, have been received.

Letter of February 21 gives more information re disposal of Nos. 388-404.

Letter of February 26 informs me the arrival of Nos. 406-412 inclusive and of No. 415. I also see in this letter that the Amygdalus Davidiana may really become a good thing for America. I certainly hope it will. You say that the cherry doesn't seem to feel congenial on it. Well, in China I never saw the real cherry (Cerasus Arium) grafted on it, only a relative (Prunus tomentosa) the bush cherry. Did Professor Mason also try it in the desert as an almond stock? It is not a real desert plant, however, although it is content with little water. I am sorry to see that this Amygdalus didn't make a show at Brownsville, but then, you know it may be just a trifle too warm for it there in that winterless climate. I sometimes think that you people in America have a more satisfactory task in taking care of imported material than the man in the foreign

field, where mail gets astray and who bucks up against a number of things about which one doesn't write.

Well, then there is your letter of March 21, I, announcing receipt of Nos. 421-440 inclusive , Nos. 452 and 454-461 inclusive.

• Letter of March 21, II, mentioning receipt of Nos. 405, 413-418 and 420.

The last letter, viz., of March 24, gives me the information that Nos. 462-468 have been received.

It seems that in general my shipments seem to land in fairly good shape, although it often seems to take a devil of a time to reach the Department. I cannot quite explain that. I see, for instance, from a card, dated April 1, 1910, and received by me this morning, that it took Nos. 430-434 and 441-451 about a month to reach Washington, as I had despatched them on February 22.

Well, postal matters are, like everything here in Russia, about a century behind the time and one is subjected to all sorts of red tape in shipping off anything of value. The last days there is a reign of terror here, the police arresting people right and left. My interpreter and the assistant were both held up already by these so-called guardians of peace.

One only wonders how long this down-trodden people is going to stand this.

1005.

Well, Goodbye. Best regards also to our fellow
workers in the office,

Very truly yours,

FRANK N. MEYER.

P.S. Please note change of address !!!!! Others also take
note! c/o American Consul, Batoum, Russia.

Tiflis, Caucasus, Russia,

April 24, 1910.

Dear Mr. Fairchild:

This morning I received 4 official post cards from
you dated March 31, 1910 and April 1, 1910, announcing various
shipments.

I also sent you, per Russian parcel post, this morn-
ing a package containing 10 photographic plates which are
marked Botanical photos. I hope they reach you unbroken. I
am not going to buy any more plates. They are too heavy and
require too much care; film packs are really just as good
and very much easier handled. I also enclose an illustrated
postal showing the way Populus alba pyramidalis serves here
its purpose as a street tree.

Then I received a letter from the Savings Trust Co.
of St. Louis which letter I herewith enclose. I wrote these

1006.

people that I would turn their letter over to my Department for advice and hope you may put it in the hands of Mr. Husmann who may suggest some good grapevine varieties. I ~~may~~ say that this Mr. Paul A. Reps, of whom Mr. Taylor writes, is a Russian who emigrated to St. Louis and has been in correspondence with me, giving me some advice about the Caucasus, its products and conditions. He has been talking apparently to various people about our correspondenceship. I also wish to draw your attention to my change of address, it being now c/o American Consul, Batoum, Russia. I hope to lose less mail that I have been subjected to of late.

With best of greetings, also to all in the office, I remain

Yours respectfully,

FRANK N. MEYER.

Tiflis, Caucasus, Russia.

April 24, 1910.

Dear Mr. Fairchild:

Herewith I am sending you enclosed 36 photos and 26 films. The photos are numbered from 515 to 550 inclusive and have written on them what they are, where and when taken and some other things besides. 10 plates I will send you separately be parcel post.

1007.

Trusting this package reaches you in good condition,

I remain

Respectfully yours,

FRANK N. MEYER

Tiflis, Caucasus, Russia,

April 27, 1910.

Dear Mr. Fairchild:

Herewith I am sending you per registered Russian sample post 1 package marked Botanical Material and containing the following things.

- 1 package of seeds of Cerasus prostrata.
- 1 " " " " Anchusa myosotidiflora.
- 1 " " diseased tea-leaves from Chakva.
- 1 " " Galls on wild rose. Tiflis.
- 1 " " Rust on Rosa sp. Tiflis.
- 1 " " " " wild grass. Geok-Tapa.
- 1 " " " " Tulipa Eichleri. Geok-Tapa.
- 1 " " " " Iris Iberica. Geok-Tapa.
- 1 " " Scales on Pirus salicifolia. Tiflis.
- 1 " " Wasp cocoon on Berberis sp. Tiflis.
- 1 " " Puffballs. Helenendorf.
- 1 " " Lichens on sunburned rocks. Elisavetpol.

1008.

The seeds of this wild, dwarf cherry (Cerasus prostrata) ought to go to Chico and perhaps Anchusa myosatifolia, too. The other material may be divided up between our different specialists.

Trusting this material will arrive in good condition, I remain

Yours respectfully,

FRANK N. MEYER.

Piatigorsk, Caucasus, Russia,

May 8, 1910.

Dear Mr. Fairchild:

This time you find me in Piatigorsk, a town in the northern part of the Caucasus and a place I came to to have an interview with a Mr. Ed. Ryssel, a plant collector, who visited the Pamir 9 times and went all through Central Asia, Russian- and Chinese Turkestan, parts of Mongolia, of Persia and nearly the whole of the Causasus are all well-known territories for him. We are now in negotiation with him about him accompanying me on this trip through Central Asia. His demands are somewhat high, really a little bit too high; viz., 200 roubles per month and everything free, including medicines and travel clothing. I consider it too much and have offered 100 roubles per month without clothing, but as usual all other things included. He

has refused that, but it seems that we may settle at 150 per month and some little things added. He has, however, a nursery here and several private interests and up to this moment he hasn't been able to decide definitely.

The present interpreter, Fjuelstrup is his name, must be back in St. Petersburg within a few weeks and the assistant I have with me to look after the baggage and packing and cleaning of things is too uneducated to act as an interpreter in these difficult outlying parts of Russia. In Tiflis or Elisavetpol I was unable to procure a satisfactory man; so few people on this world are really enough interested in this work to throw their energy into it. They want a stiff salary and simply enjoy themselves. That is the main trouble with my present men, too. It really seems a fellow has to be born for this kind of work.

Today is Sunday and let us hope the last holiday for some time to come, for the Russians have made the whole past week practically into one big holiday, it being the celebrated Easter week. Banks and post offices closed, people absent or intoxicated, etc.; such things are common here. We made a splendid trip from Tiflis to Wladikavkas, right through the heart of the Caucasus. We left Tiflis on Thursday morning, April 28, and arrived Tuesday, May 3, in Wladikowkas. As Saturday, Sunday, Monday and Tuesday were holidays anyway, we had at least the pleasure of being on the road instead of

sitting somewhere in a city. On Monday morning, May 2, we experienced a good snowstorm yet, while in elevations of between 7000 and 8000 feet altitude and our whiskers froze, but in the afternoon we had descended already so far that we were again in green valleys with trees all over the mountains.

The road we went by is the famous Grus~~insky~~ military road and we passed some real matchless scenery. In the valleys wild pears, apples, plums and cherries were in full bloom, but on the higher tops and plateaus vegetation was still covered with a heavy blanket of snow. I found several Medicagos and clovers as you will see from the inventory notes I send you and made quite a pack of herbarium material, but otherwise I didn't see much of economic interest for us. In autumn it must be somewhat better when grasses and other possible forage plants for elevated regions are in seeds. It seems that the Caucasus will give America quite a few good things yet. I am getting information all the time about new things. Now, Mr. Ryssel has been telling me again about a very hardy variety of black currant (Ribes nigrum caucasicum) growing in high mountain regions in the northwestern section of the Caucasus where it gets minus 40° Reaumur and where in early May it still registers often minus 15° R. There is much variation among these currant bushes in regard to fruitfulness and size of berries.

Then there is a wonderful variety of sweet table grape in a mountain village near the northeast coast of the Caucasus, having berries of a size like Reine-Claude plums !

There are also quinces there in that section weighing up to 2 lbs. apiece and fit to be eaten like apples, after they have laid a couple of months.

Then there is a native specie of Asparagus (A. verticillatus) of which the thin , green young sprouts make an excellent vegetable, of a much more piquant taste than our ordinary asparagus. I tasted them now several times and they are excellent indeed.

Then there is the large fruited Capparis inermis, a promising new pickle for America. It can be grown in our dry, warm regions of southern California and Arizona. Mr. Ryssel will assist us in getting some of these things. Only he is somewhat commercially inclined and we first will talk terms before ordering.

Well, I hope to settle matters here within a day or two and will then leave along the east coast for Baku, investigating the table grape industry of Derbent, a city famous for its delicious table grapes of keeping qualities. When Mr. Ryssel does not go with me, I may not enter Entral Asia from Krasnawodsk but will try to get me a man from some of the German Colonies along the Wolga and go via Orenburg to Tashkent.

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Well, I remain with best of greetings to you all,

Yours respectfully,

FRANK N. MEYER.

Piatigorsk, Caucasus, Russia,

May 8, 1910.

Dear Mr. Fairchild:

Yesterday I sent you per registered Russian sample post, 28 small packages, containing roots and other material. I herewith give a list of the numbers of these packages.

772	3 packages	778,	1 package
773	1 "	779,	4 packages
774	1 "	780,	10 "
775	3 "	781,	1 "
776	1 "	782,	1 "
777	1 "	00,	1 "

I also enclose the inventory notes belonging to this shipment. All this material was collected on our journey from Tiflis to Wladikavkas, which lasted 6 days and which trip I made entirely on foot.

As you see, nearly all the roots are of Medicagos and I am in hopes that a few valuable species or varieties

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will be found among them. The specialists in our Department will no doubt give them the best care and location possible.

In the package marked 00, there is a small package with Medicago seeds, No. 1333a, also a few seedpods and leaves of a Medicago of which roots sent under No. 781. Then there is some entomological material like: Scales on Corylus Avellana; (two packages) Scales on Rhamnus Pallassii, (1 package); also a few very large lichens to be given to someone interested in them.

Trusting that all this material reaches you in good shape, I remain

Respectfully yours,

FRANK N. MEYER.

Wladikavkas, Caucasus, Russia,

May 12, 1910.

Dear Mr. Fairchild:

Last night, at midnight, I reached again this city which I visited some days ago. It is, however, against my wish that I am here and for the following reasons: My passport had to be renewed on account of my having been in Russia 6 months. In Piatigorsk they declared themselves incompetent to do it and I had to return to a city where a governor resides. Now

I am here and although we were at opening time in the office, the necessary or rather unnecessary formalities could not be finished until closing time arrived (only at 2 P.M.) and I will have to stay another day and await further difficulties.

I herewith enclose a letterhead of Mr. Ed. Ryssel, the new interpreter, who, when no further complications arise, will enter my service on June 1, 1910. His family and friends do not agree with his own intentions of going with me and they still may keep him back. As present affairs stand, he will come to us in Baku and I hope to ship off the present interpreter as soon as we have landed there, which may be a fortnight hence. The assistant got an attack of dysentery and is far from well. And so we move along in this part of the globe, just like a family, having sorry and pleasure interchanging.

I remain with kind greetings, also to all in the office,

Yours respectfully,

FRANK N. MEYER

1015.

Baku, Caucasus, Russia.

May 22, 1910.

Dear Mr. Dorsett:

From the last letters that came to hand, I see that you are tending entirely to the shipping and forwarding end of our exploration business and as Mr. Fairchild has so much other correspondence, I will address letters of this nature in the future to you.

Well, I am sending you herewith 5 packages, all marked 783 and containing roots of Capparis spinosa. Four of the packages went by Russian sample post (Registered) but the large one had to go by parcel post, although I see from my last shipments that a package by parcel post remains many weeks longer on the road than one sent by sample post. The roots, however, were too large and too heavy and the post office declined to accept them as samples.

I enclose herewith the inventory notes belonging to this shipment, in duplicate. I could say more about this caper plant but the thing is so well known already that I otherwise might be suspected to "Burbank" such an old acquaintance of horticulture.

I suggest that the plants be sent to a few of our Testing Stations in the arid or semi-arid southwest sections of our country, like to San Antonio, to Yma, to Indio and to Chico. Of course, if the thing has been experimented with

1016.

already, then my advice I will consider as not written.

I received several letters from you and tomorrow I expect a few more and then I will answer them all in a bunch. Hoping this aforementioned material reaches you in good condition, I remain with kindest regards,

Very truly yours,

FRANK N. MEYER.

Baku, Caucasus, Russia,

May 27, 1910.

Dear Mr. Dorsett:

Herewith I am sending you by registered Russian sample post 5 packages marked 784 and containing roots of Medicago sp. I also enclose herewith the inventory note, belonging to this number, in duplicate. As the region around Baku is mild enough to allow olives to remain out of doors in somewhat protected places, I suggest that these Medicagos be planted so that they can be protected from the winter's cold until they have borne seeds.

I got several letters and cards from you these last days and this morning I received a letter from Mr. Fairchild dated May 2, 1910, in which he states that some of my recent shipments have been addressed merely to the Department of Agri-

10.17.

culture, Washington, D. C., U.S. America, etc., and that one of these packages was referred to the Library. Well, I cannot understand how this is possible. Firstly, every one of my packages whether it goes by parcel post or by registered sample post, has an official label attached to it by strong string and on that label it is always stated what the contents are. On the packages themselves I always write the address of the Department in pencil, but very often the space is not large enough to admit of more addresses than merely the Department, etc., as the address in Russian also has to be written on it by order of the Russian Postal authorities. Of course, in case such an official tag has been taken off, then there is a likelihood that some other office received our shipments, but--our mailing clerks who are receiving such shipments surely know the difference between a parcel with plants and a publication and in case they do not, they should be given some talk about being less dull. I also am far from pleased about the delay my shipments are subjected to; in case I am to blame, I would be too glad to hear the reasons why. In case the postal authorities are, either in America or in Russia, I trust you or Mr. Fairchild will write a strong letter about it, if necessary through the Secretary. I pay sufficiently postage, submit to all sorts of rules from the Russian authorities and I positively see no reason why our shipments should not receive the earliest of accommodations, either in Russia or anywhere else. I am losing

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personal mail too loose in this land and it seems anything
that one really wants to reach one has to be registered.

Within a day I hope to ship off a box with seeds
and herbarium material; I have a hard time in getting the
plants perfectly dry. Then my old interpreter left me and
the new one has not turned up as yet. I expect him, however,
within a day or two. The assistant is as yet far from well,
being quite weak from his attack of dysentery; I think he will
have to go home to recuperate, for it wouldn't pay me to take
him with me to hot Central Asia.

Well, later on more. With best of wishes, I remain

Yours sincerely,

FRANK P. MURPHY.

Baku, Caucasus, Russia,

Aug 27, 1919.

Dear Mr. Reichenow:

Today is again a week since we arrived here and
although I was in hopes that Mr. Russell, the new interpreter,
might have been able to come somewhat quicker, he sent me a
telegram that he would arrive on the 24th so that is tomorrow.
The old one had left already for two days ago. I do not miss
him much, for he was singularly inactive in late and found out
practically nothing.

~~1910~~ 10/9

I am in receipt of quite some letters from you these last three days and I will herewith answer them.

Letter of April 2, 1910, about a gall on Rosa sp. new to the entomological collection and a copy of part of Dr. Howard's letter. I wonder why Dr. Howard wants me to be instructed to confine my future sendings only to scale insects and galls.

Letter of April 2, 1910. About preserved loquats.

Well, I certainly made a mistake and meant kumquat, as you perhaps perceived in reading. About the woodnut oil tree being of value in the United States, well, I think Mexico and the mountains of Porto Rico, Cuba, the Hawaiian Islands, etc., will be found better suited, not only for more equable climes but the three first also for the cheap labor supply they possess.

Letter of April 11, 1910. What a pity this wax cylinder of yours broke with the 1000 word letter on it to me about the bamboos. I am very glad indeed you find Mr. Schultz such a good man in looking after our bamboos. You say that he informed you that he successfully rooted portions of stems of bamboos. Yes, but what kinds; Mr. de Lehaie says that it can be done with *Bambusa* and *Arundinaria*, but not with *Phyllostachys*. I wonder if Mr. Schultz rooted the last one, if so, he will advance bamboo culture enormously! About that bamboo smut, my, that is terrible! It seems that every new introduction gets some kind of a plague upon it straight away. About Mr. de Lehaie, yes, as long as the world is divided yet in different countries and each country requires a different citizenship, so long men like Mr.

de Lehaie will find difficulties in working to the world's greatest advantage. About publishing some parts of my letters, true, at present our Department has not the facilities for it. Let us publish a weekly, then we can do it! If the American Horticultural papers were more of the nature of a Gardener's Chronicle, then many things could go in them; as things are at the present, I believe they hardly ever publish anything about the exploration part of our work, do they? I am glad you found my photos all right. The bad ones excepted, of course. Yes, some ten years hence we may partake together of a lunch in the bamboo forest at Brooksville and then the demand will come for more bamboos like it is already in the Caucasus where factories in Tiflis are being supplied with bamboo canes grown near Batoum and the demand exceeds the supply.

Letter of April 11, 1910, with enclosure of copy of
Mr. E. Parkinson's letter from Old Bokhara. I notice what Mr. Parkinsons says in regard to the district where he lives, pretty well explored by Professor Hansen. Well, we will just see; in skimmed milk there is often some cream left yet!

Letter of April 12, 1910, re photographs received.
And you will use some of them at once, all right. I do not retain any, so of course I run the risk of coming back some of these years and finding that all of the photos have been used already in some way or another, but of course, that cannot be helped. Exploration is the rougher end of our work,

but also that part where one sees and experiences something new all the time and in regard to photos, I think I better take the liberal side of it and give you the full use of them.

About belljars, well, my own opinion is too, that in and around Washington they are not going to be of great use; however, to root tree and shrub cuttings, they will be found excellent when placed on a shady place. Evergreens, for instance, root very much better underneath such bell jars than in a frame or greenhouse. You are quite right; the only and the best way to find out is to try!

This Pinus Tauricum seems to be synonymous with P. Laricio, but of this there are many quite distinct varieties. The P.C. I sent you was merely to illustrate how marvellously well it succeeds even in barren rocks and I do think it is worth being experimented with as a shade and timber tree in some of the drier sections of the South West. About the little camera, yes, I will try to send it back, only the postal authorities here decline to have a parcel valued and in case I send it without value, it may never reach you, like some photos I sent my sister and like many newspapers and magazines that never reach me.

Letter of April 13, 1910, with enclosures of a copy of Vice Consul Lightgale's report on his trip to the tea districts of Fukien. My kind thanks to you for sending me this report which I find quite interesting, though, of course, not technical, which couldn't be expected. As I only wanted to

borrow this report, I am returning it herewith to you, together with an old letter of yours bearing upon this same subject, from which I am relieved now. Will the tea plants arrive in good state? The photos I hope to see some day when I return unless there is so much more to be seen than I will have quite forgotten all about it.

Letter of April 14, 1910, re *Dracaena indivisa* leaves being used as a tying material. Sorry it wasn't a novelty to Mr. Hussmann.

Letter of April 20, 1910, re samples of tobacco I sent with the remarks of Mr. E. E. Garner, in charge of Tobacco Investigations. I am very pleased to hear these samples are so well appreciated by those interested in them. An omnifarious habit in our profession is not altogether harmful, isn't it?

Letter of April 21, 1910. I am very pleased to see you have taken up correspondence with Mr. Howell at once. He is a fine fellow, only too glad to assist us and it will be mutually of great benefit if you and he get to know the needs of various sections of both the Caucasus and certain parts of America and actively exchange material.

Letter of April 22, 1910, about the hardiness of various *Phyllostachys* in the Caucasus and whether perhaps hardier strains have been developed. No, I hardly think so, for their culture is really too recent for that; however, the winters in the Caucasus are in general not of that changeable nature that we experience in the Eastern parts of the United States and consequently plants suffer less, even if an unusually

cold spell is experienced.

Letter of April 25, 1910, in which you tell me that you couldn't find any difference in taste between the ordinary coffee and the sample of soy bean coffee I sent you. I hadn't expected that, but I suppose you used plenty of cream in it and then it tastes essentially like coffee which is not too strong; taking it however without any milk, then it is decidedly less aromatically bitter than the produce of *Coffea arabica*. I have done as you wished and have sent the firm agent in Quirili a money order for 5 rebbles which is 3.60 rebbles for 12 tins of coffee at 30 Rebbels per tin, and the remainder covering postal charges. I trust you will receive it a month or so from now. I am looking with surprise and delight at the large picture postal you enclosed representing in such a realistic way the beautiful *Ido*. It is a splendid idea this scheme of yours and Mr. Dorsett, in bringing before the public in such a novel way, a new introduction. A question: isn't the post rather large of such cards? If not, several of our better introductions will find a more appreciated receipt perhaps, if accompanied by such a card, or even coming simply in the form of material alone.

Then this People's Garden Association, of which Mr. Dorsett also sits as the newspaper clipping, is a good thing not only for the city of Washington, but also for fostering a greater love for plants among residents of the capital. I hope

to see many reforms effected by them, when I come back some of these years; I hope they will establish a Botanical Garden and Arboretum, too, in some beautiful spot in the environs of Washington. It will give you, however, still more work, won't it?

Letter of April 22, 1910, re hazelnuts occurring
near Probidand and Prusum and Mr. Taylor's remarks. Yes, I thought he would be interested in them. That is the reason I sent plants and cuttings of a native varieties of the Caucasus, Nos. 430-434 inclusive, which numbers were received, but I believe in rather poor shape as Mr. Dorsett wrote me under date of April 6, 1910. In case they are stone dead, Mr. Heller will be able to indicate them again. In regard to these hazelnuts and filonias, could you let me know in a next letter in what section of America they really thrive well. I have sent you a few times barrels of hazelnuts, which I hope reached you; for large quantities of fresh nuts, I suppose the New York market is almost as good, if not better, than our markets here, for I was assured that London and New York have the larger and better part of the output of Caucasian and Asia Minor hazelnuts.

Letter of May 2, 1910. This is the last of the lot and you tell me in it about some troubles that you are experiencing with my mail. Well, I wrote about this already this morning to Mr. Dorsett and I would be pleased if you talked with him about these matters. In case something is wrong with

1925.

my methods, I will be glad to correct them, but as I see it, the postal authorities and the clerks attending to the distribution of mail are guilty and I trust you or Mr. Dorsett will find out and let me hear about it. I may not return any more to this land after having crossed the Caspian Sea and I hate to have lost through mere "bureaucracy" any shipments that I packed in and wrote about in a rather painstaking way.

Then, I received a letter from my former Chinese interpreter, Chew Hai Ting; you remember probably the one who went with Mr. Sowers of the Carnegie Magnetic Survey. Well, he is in poor straits. He left Mr. Sowers near Kashgar and wanted to return again to Peking. He became sick, however, and had to stay apparently for over 6 months somewhere near Khotan. Now he is begging me to try to help him in getting some kind of a job, as all of his money is gone. Well I have sent him something and wrote that maybe he can be of value yet to me when I arrive in Chinese territory. It takes a letter about three weeks from here to Kashgar and I hope the poor fellow will be relieved somewhat.

You know, I suppose, that Dr. Barnhart is dead. Yes, I received a letter from his daughter quite a while ago. They laid him away among the beautiful Robinson Hills in Chekiang, a place he loved so well. A few days yet before he expired he talked about me and the good work we are doing. Dr. Barnhart was one of the men who knew more than he was given credit for,

but -- fell in some intrigue which gave him a heavy blow, from which he, being so aged already, never recovered.

Is anything known of Mr. E. H. Wilson, who left for Boston in September, 1910? I wrote him a few times but never received the slightest answer. And that new man that Prof. Sargent had out in North China, is he finding much?

Before I left Tiflis on April 28, I had a talk with Mr. Kollow in the Botanical Garden at Tiflis about various matters. I asked him if it really was so that Erivan alfalfa which I sent under No. 1504a and 1315a, lasts ten years against Turkestan alfalfa 6 years. He did not know this, but stated that Erivan alfalfa is generally badly infested with *Cuscuta* and he therefore recommends carefulness in importing it in large quantities.

My question whether the Agricultural Society in Kharkoff was a reliable affair to supply us with pure Turkestan alfalfa seeds, he couldn't answer as they hadn't had any dealings with them. He could recommend, however, the South-Russian Agricultural Syndicate, Bulvarnaya g. Trief, as supplying high grade seeds.

Another place where fine agricultural seeds can be obtained fit for northern regions is the Estate Kuratovo, Station Chotinets, Riga-Orhoff Railway. Mr. Chitrovo being manager. When I asked in regard to lowness of winter temperatures in Yalta and Nikita and not only Mr. Kollow, but also Prof. Boronoff of the Tiflis Botanical Garden and Mr. Pavlenko of the Derbent Agricultural Experiment Station assured me that

Mr. Kalaide was wrong in saying it ever had been 15° Reaumur. They said from 10° to 12° Celsiars below Zero that would be about right. Mr. Kalaide hasn't answered me as yet on my letter of inquiries, perhaps he found out he was overdrawing the picture somewhat.

Of the famous grape collection near Yalta I was not able to get any more information, beyond that the Nikita Botanical Garden is considered to be the richest in Russia for grape material. About the Bureau of Acclimatization in Sizran, Govt. Simbirsk, Mr. Rollow informed me that Mr. A. D. Woeikov, its president, is a very good man and that they possess lots of interesting things. I just want your opinion about the following. There are several things I failed to get in the Caucasus this time through being too late, like the very long lasting grapes in Erivan and still better varieties from Ordobad, then the famous apricots of Erivan, the excellent native varieties of olives from near Artwin, south of Bartoun. The quinces from Kassawfiurt, the table grapes of Derbent, the superior hemp and millets of the Cuban province. Then there are still the Medicagos from Serepta, the Acclimatization Station in Sizran and various other points on the Volga so it might be a good thing to have a run down from Tashkent sometime this fall and get various matters. I will see how matters are going to be in Central Asia and how my new interpreter is going to turn out. Central Asia and adjoining Western China may take a few years to explore and I will just see how

much time I have left yet.

I asked several people about paper plants grown in the Caucasus, but apparently all of the paper is imported and made in Russia from the ordinary materials. Mr. Rollow said, however, that he believes in Central Asia Apocynum venosum and Asclepias syriaca are regularly cultivated for their fibres from which a silky paper is made. Mr. A. Shikovnikoff of Geok-Tapa informed me that the lightness and strength of the Russian bank notes is due to their being made of Boehmeria nivea fiber. I had always heard they were of Apocynum fibre that was grown especially for them in Turkestan, however, we will ask more about these matters.

Then, I am in receipt of bulletins of W.P.I. Nos. 25, 27, 29 and 30. No. 25 was apparently detained by the post office authorities for some reason or another and didn't reach me until now, unless this is a second copy you sent. I find these bulletins immensely interesting as they show me in compact form what there is going along in our office. Mr. Perkins seems to be O.K. I see he visited Hokaido and got several things there. I also see with interest that Mr. Gerkin of Huling, reports that the Yang-tow is a delicious fruit when eaten with cream and sugar. None of the missionaries in China ever told me so. I wonder if he really meant the Yang-tow, as the skin of the last is rather tough. I see the photo of the Fetsay in Bulletin 29. I wonder whether it is one of the plants

grown by you on your place "In the Woods". From what I note of Consul Wm. Westerson at Harput, many of the Turkish grapes seem to resemble those of the Caucasus and Persia very much. I suppose some will even be found to be identical.

There is a question yet. Could you be so kind and send a large package of vegetable seeds of various kinds with a few flower seeds thrown in, too, to the Emil Kohner in Nenchenlorf, Elisavetpol, Govt. Caucasus, Russia. There is no hurry about it, but they asked me when I was there if they couldn't get some seeds from us and as they entertained us very hospitably and gave me cuttings of grapes and pomegranates Nos. 753, 754, 755, 761 and 762, I trust you will be able to send them something this winter.

I have something similar with Mr. A. Schickvillhoff at Trok-Tapa, Gts. Shaldan, Govt. Elisavetpol, Caucasus, Russia. He also received us most interestingly and supplied me with several things, like pomegranates cuttings, Malus paradisiaca cuttings, etc. He is a specialist on Iris and various liliaceous plants and offered me to send us some rhizomes of his various iris, when they have died off about June or July. He also will send seeds in the autumn of Malus paradisiaca (No. 763). But he wants from us the same native bulbous plants able to stand a semi-arid climate. I suggest that some Colchicetes from California or Utah be sent and a few native lilius from the far West.

I just got a letter from Mr. Van Fleet in Chico in

which he says he will be very interested in receiving some iris material and I trust you may enter with Mr. Shelkovnikoff into correspondence. I have given him your name and address also.

Well, that is again enough for the present. I remain with best of regards, also to all in the office.

Yours respectfully,

FRANK D. MEYER.

Baku, Caucasus, Russia,

May 28, 1910.

Dear Mr. Fairchild:

Herewith I am forwarding to you through the Agency of the North German Lloyd in Batoum and St. I. P. Voss, New York, one large case of seeds and herbarium material marked D.A. I.

The contents of that box are many and varried. There is one pood of Lathyrus sativus, (1334a), 1 bag of a small variety of Pisum sativum (1335a), 1 pood of a large variety of chickpea (1336a), 1 bag of horse beans (1337a), 2 bags of wheat (1338a and 1339a), 1 pood of a superior quality of naked barley (1340a), 1 bag of Trvur Lens (1341a).

Then there is a mass of Herbarium material like

<i>Prunus spinosa</i>	<i>Cerasus prostrata</i>
<i>Cerasus Avium</i>	<i>Cerasus microcarpa</i>
<i>Populus sp. A.</i>	<i>Eulima Michleri</i>
<i>Populus alba A.</i>	<i>Phedra vulgaris</i>
<i>Fagus orientalis</i>	<i>Spiraea hypericifolia</i>
<i>Prunus divaricata</i>	<i>Vinca herbacea</i>
<i>Taxus baccata</i>	<i>Primula officinalis</i> var. <i>macrocalyx</i>
<i>Ribes sp.</i>	<i>Iris caucasica</i>
<i>Prunus sp. (2 distinct sp.)</i>	<i>Viola sp.</i>
<i>Cytisus biflorus</i> ?	<i>Asperifoliacea</i>
<i>Firus salicifolia</i>	Unknown
<i>Colutea sp.</i>	<i>Alyssum sp.</i>
<i>Hesperulus germanica</i> ?	<i>Amygdalus nana</i>
<i>Lathyrus latifolius</i>	<i>Juniperus foetidissima</i>
<i>Rhamnus Pallasii</i>	<i>Juniperus</i> " var. <i>squarrosa</i>
<i>Cotoneaster multiflorus</i> ?	<i>Juniperus</i> " " <i>ourea</i>
<i>Medicago orbicularis</i>	<i>Juniperus</i> " " <i>isophyllos</i>
<i>Medicago globosa</i> ?	<i>Pistacia nutica</i>
<i>Medicago rigidula</i>	<i>Dictamnus fraseriella</i> var. <i>caucasica</i>
<i>Medicago maculata</i>	<i>Lonicera Caprifolium</i>
<i>Medicago sp.</i>	<i>Lonicera iberica</i> .
<i>Anemone silvestris</i>	<i>Cotoneaster sp.</i>
<i>Stipa pinnata</i>	<i>Ciccia sp.</i>
Grasses (7 different species)	A cruciferae
<i>Caragana grandiflora</i>	<i>Asparagus verticillatus</i>

Capparis spinosa	Trigonella sp.
Onobrychus cornuta	Lycium sp.
Pirus eleagnifolia	Unknown perennial
Tamarix sp.	Glancium tricolor ?
Glancium sp.	Papaver sp.
Allium sp.	Trifolium in 3 sp.
Medicago in 4 sp.	Pinus sp.
Rust on Berberis vulgaris	Rust on Euphorbia sp.
A Fungus from the steppe.	A sample of hay collected on the
Paliurus aculeatus, a fasciation/steppe, for Prof. Piper and	
Rosa sp. a fasciation. These	others interested in it.

last two would be interest- A fossil Sam's horn

ing for Prof. Hugo de Vries A fossil snail

in Amsterdam or for Dr. H. A copper ornaments from a pre-

J. Webber in Ithaca. historic grave in the Caucasus

Pottery from a grave at

Samarland.

These last are perhaps of value to the National Museum.

If more is desired correspondence is invited.

Sample seeds of

Samples of very large raisins.

Polygonum tinctorium	" " dried sweet apricots
A package of scales on	" " Berberis fruits
Hesperis Germanica and a	" " dried sub acid plums
spider ? from Beek-Lapa.	" " Pistachio seeds.

Books:

Material for an Angeliographic. 2 volumes.

Information about fruit culture in the Caucasus.

2 volumes.

Bäume & Straucher des Caucasus. 1 volume.

I wish you would call the attention of those engaged in alfalfas and burclovers to the Medicago material sent in and to those interested in testing different kinds of drought resistant stocks, *Pirus salicifolia*, *P. oleagnifolia*, *Prunus* sp., *Mespilus germanica*, *Cerasus prostrata* and *Amygdalus nana*.

Of the package of *Pirus* sp. and of various woody plants I trust Professor Sargent will receive a portion, but of the *Pirus* especially, as he has asked me particularly for such material.

Mr. Fushman no doubt wants to look through the two grape books. I obtained all of the 5 books from Mr. Kollow of the Tiflis Botanical Garden, all free of charge. The various packages all have a label inside and I trust no difficulties will arise in opening them. I enclose herewith in duplicate the inventory notes belonging to the seeds and hope all things will be received in good shape.

With best of wishes, also to all in our office, I remain,

Respectfully yours,

FRANK H. MAYER.

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P.S. Mr. Nyssel arrived and we hope to leave Monday for Krasnawodsk.

P.P.S.

Baku, Caucasus, Russia,

May 30, 1910.

Dear Mr. Fairchild:

Today we went to the post office and were able for some reason or another to ship the little camera back to you insured for 80 roubles. That is the first time they were willing to have one of my parcels valued. We had to pay 1.50 roubles for postage and 50 kopecks for sealing and insurance. This camera carried apparently some hoodoo with it, for very few of the pictures I took with it are of much account and it is better that it comes again into other hands. Trusting you will receive it in good condition, I remain,

Respectfully yours,

FRANK A. MEYER.

P.S. Within a few hours I will be on the Caspian Sea enroute for Krasnawodsk; at last you will say! Still, the Caucasus was worth the time and money.

Baku, Caucasus, Russia,

May 28, 1910.

Dear Mr. Dorsett:

As I announced to you already, I am in receipt of several letters of yours and herewith I will answer the whole bunch.

Letter of April 2, 1910, announcing the receipt of material, also how a smut disease has developed on the bamboos which is, of course, a very distressing information to me. I sincerely hope it can be kept down, even if the plants have to be defoliated once or twice. Yet, I know it, having seen it quite often in the Chekiang Province and I even sent specimens of such Bamboo hexenbesen to Mrs. Patterson. This one, however, may be again something else.

I am much pleased that Mr. Schultz approves of the location I selected for a bamboo experimental garden at Brooksville. Up to the present I hadn't heard any praise or any condemnation of that particular locality. I myself consider the region around Brooksville eminently suited for the establishment of an arboretum and hope that something like that may grow eventually out of our experimental bamboo groves. Central Chinese and Central Japanese plants will thrive there especially!

Letter of April 6, 1910, re grape and hazelnut cuttings received. I am sorry to hear that those hazelnuts were so dry. I cannot understand why they have been kept on the

road for apparently more than six weeks. I wish you would ask the post office at Washington for explanations, if necessary through headquarters.

Letter of April 11, 1910, with enclosures of copies of Prof. Beach's letter of March 17, 1910, and the paper on Shat on Barbos. Very interesting, both these papers are. Prof. Beach's idea is certainly original, although I personally think that the process of originating a hardier peach by using *A. Davidiana* as one parent will be just as slow a process as making a hardy orange of good commercial value. It can and will be done no doubt, but -- it will cost lots of time, patience and money. I am very glad, indeed, that you sent me Prof. Beach's letter. It gives me a wider outlook upon this apparently valuable introduction of ideas.

And this one, sweetly sent direct. Through it came on Mr. Hill's shipment. Every time we import something from Japan there is something wrong with it whether it is roses, chrysies, lily bulbs or not quite known. I must let you know whether it is being sent in check.

Second letter of April 11, 1910. More about the first and various routine matters. I am glad Mr. Williams has recovered again a good deal. He must have been really attacked.

Letter of April 16, 1910. I am very glad to hear the work gets along so nicely in the office, but -- you fellows have increased considerably in number of late and I suppose the pay roll of our little office is going to be a rather steep one,

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isn't it? Well, so much money has been thrown away uselessly on some things that turned out to be failures in the past, that a little bit of cash expended upon getting good workers in the force is really in the nature of a solid insurance enabling us to lay foundations upon which to erect a solid building. And Mr. Wisser, who, I think, is now here, has been a revelation for him to see the beauties of California and the far west. I saw he also was in Wallingford; I never was in the States of Washington or Oregon, but will certainly visit them, too, some of these years.

And Mr. Marchbanks wanting to go with Mr. Wisser with him to Palestine. That wouldn't have done at all, for Palestine is still better in summer than Chico and much more garlic is eaten there which doesn't suit all people. You are asking me in the name of God. How much to save an eye for an eye? For an eye for an eye? Yes, I have seen many it and in the large box with seeds which I just delivered to the railroad station there are two contributions to such a work.

I see you received a quantity of chickpeas from me. Well, that was in a large box together with other seeds and shipped from Batoum. I was, however, not notified of its arrival or more likely yet, the card announcing it did not reach me, a thing not uncommon here in this land. I am always very glad to hear the state of shipments arrive in, but if I could, I being to realize that it is perhaps going to be too much work

for you and if you cannot find time for it, then it may be better perhaps to omit the sending of such cards which reach me at great intervals anyway.

Letter of April 19, 1910, announcing the arrival of various numbers of mine and seeing that they were only about a fortnight on the road. How can we explain that. The ways of the mail are truly mysterious! I also noticed the clipping you sent me about People's Garden Association with Mr. Fairchild as president and you on the board of directors. Lord, I won't recognize old Washington when I come back. I hope that the many flowers and trees that are going to be grown will keep the summer temperature somewhat down, although I am afraid my hopes will prove to be in vain.

Letter of April 21, 1910, with enclosure of Dr. van Fleet's letter of April 16, 1910, and a photo of the early fruiting cherry. My, that is most welcome and interesting news and I have to thank you especially as being the first to draw attention to this introduction several years ago. Dr. van Fleet's comment on it being evidently a valuable find, is also very pleasing to hear. What a great, great pity you left Chico some years ago and allowed so many things to fall in the hands of a rascal who did untold-of damage to our reputation and to so many valuable things I sent him and which are all dead and buried now in Chico.

And now you want somewhat more information about this cherry. Well, first where is Tang-si or Tang-hsi or Dong-si;

the first spelling has been officially adopted 2 years ago by the Chinese Government. It is situated on the canal that connects Soochow with Hangchow in the Chekiang province about 80 miles or so to the southwest of Shanghai. And the history of this cherry. Well, I spoke with Mr. Alexander Kennedy, missionary at Tang-si some night in the latter part of February, 1906, about various fruits they have in his district and he said among other things that they had cherries that ripened early, but were rather small and sweet and were grown in orchards near the mountains. We went out one day, but couldn't locate such orchards and then he said they had some trees in the town itself and on March 1, 1910, we went to a courtyard and I cut some budwood of a rather small sized tree growing on the north side of the house. I never saw the trees in bloom or tasted the fruits and I have my doubts of it being a common thing. And that is all I know about it. In hybridization work I suppose this cherry may create something remarkable, when Dr. van Fleet can combine its early fruiting qualities with the size and taste of standard varieties.

Letter of April 27, 1910, with enclosure of copy of Mr. E. W. Kirkpatrick's letter undated wishing to obtain scions of figured woods. Yes, I will keep my eyes open for them, but how am I going to know that a tree has curly wood or not. One can't see it always from the outside. Has Mr. Kirkpatrick perhaps some photos showing how such trees look?

Letter of April 29, 1910. Your last one with three fine photos enclosed. The two of Rosa xanthina (spinosissima?) are simply superb and do the photographer credit. I am very glad you sent a pair plants of this last one to Chico. I just wonder how you got them out of the hands of brother Oliver. He wouldn't give any one a single bud or stick from it as Mr. Bisset will tell you and I had some words with him about it.

You say about Rosa Banksiae var. lutea plena that you had written me about it in a previous letter. Well, this letter hasn't shown up as yet. Is it a fine rose or not? I never saw it in bloom and went by the statement of a Chinaman who said it had yellow flowers. I sent another yellow rose, No. 249 (S.P.I. 22449) how is that turning out? Mr. Fairchild planted one of them on his place last summer and several were sent to various rose specialists throughout the country. In regards to Mr. Wight's determination of the yellow rose S.P.I. 17469, I may say that I delivered to Mr. Ricker quite a few flowering branches of the wild form which must be in our herbarium now.

Well, that is about all. Thanking you heartily for sending me also some "not mere routine mail," I remain

Yours sincerely,

FRANK M. MEYER.

P.S. I am also in receipt of a stack of post cards, 18 pieces all told, announcing the receipt of various shipments and letters. The cards are dated April 8, 9, 11, 15, 16, 22, 23, 25, 27, 28, 30 and May 2, 3. Thanks!

Ashabad, Turkestan,

June 7, 1910.

Dear Mr. Shirchild:

And now I am again for a week in this rather hot and dry land and to my great surprise the authorities didn't put the least obstacles in my way, up to the present anyway. The only trouble I have is in finding a good interpreter and general assistant. The one I have now with me, Mr. Ryssel of whom I wrote you, does not turn out as hardy or handy as one would expect him to be. He is a poor walker and his eyesight is far from being what it ought to be while out exploring. Perhaps I may find me a strong, good fellow yet in some of the German colonies that are scattered here and there through this land. However, this interpretation business is a great worry all the time, the more as one out in the foreign field is always very closely associated with one's assistants and one cannot turn to others for advice and companionship.

Well, now you will no doubt be interested to know how I got into Central Asia. Well, we left Baku on Monday night, May 30, and landed the next afternoon in Ashanavodsk, where we found a few police officers and gendarmes asking us for our passports. My name had been looked already for months and I was informed that all my requests to explore and photograph had been granted and that the various authorities had been instructed to assist me. On June 1 I received my passport back and left in the afternoon for Kizil arvat, where according to

Mr. Ryssel's belief many rare Persian seeds could be obtained. When we arrived there the next day we didn't find it to be so, as most of the Persian population had shifted to Isfahan and Baku. In the afternoon we left again for Bakharden, a small town near the mountains, where some fine native vegetation was said to occur. Well, to obtain a car consumed the whole next day (June 3) but we left at 4 A.M. on June 4. Our cartman, a conceited Armenian, professed to know the country, but at 2 P.M. we were quite at a loss where we were and we camped in the open. On June 5 we found a soldiers' post for we were close to the Persian frontier and made our headquarters there for that day and on June 6 we returned again to Bakharden. I found some interesting plants during these days, like an ornamental Bremia, a few species of Lamarix, an Acer, Cerasus microcarpa, Prunus sp. Ulmus sp., interesting grasses, etc. We made a goodly pile of herbarium material which will reach you in due time. Well, this morning we left again for this town where I hope to see a few men, who may give me some solid information regarding the products of this part of Central Asia. I cannot say that my first impressions of Central Asia are so very pleasant after having seen so much of the beautiful Caucasus. There is much heat, much dust, much vermin here and relatively little comfort, even washing water is hard to get hold of. The vegetation, too, is as could be expected, not very varied in general. Around the houses and railroad stations one finds mostly our Acacias, (Robinia pseudo-acacia), Albizia plant-lotus, Ulmus

pumila, Ulmus campestris, Populus bollana, Cochlos japonica,
Koelreuteria paniculata, Tortu alba, Gleditsia triacanthos
 and here and there an orange (Persea pomifera). All
 those trees are periodically irrigated! If not, they die
 within one or two years. In Krasnowodsk, however, where it
 is quite mild in winter, I noticed a beautiful flowering bush,
Foinciana Gilliesii, which thrives with very little irrigation;
Eleagnus angustifolia, Populus diversifolia and a species^s of
 Saxaul bush (Ammolegendron), also need very little water. There
 are, however, apparently few trees to be found that resist the
 aridness of the Central Asian plains where hot summers are
 followed by cold winters, while high winds blow very frequently
 both winter and summer. The trees that looked the best are the
 native form of Ulmus campestris, the Chinese Ailanthus glandu-
losa and the North American Robinia pseud-acacia.

Well, trusting all is well with you and the office
 force, I remain, with kind greetings,

Respectfully yours,

FRANK H. MEYER.

Ashkabad, Turkestan,

June 9, 1910.

Dear Mr. Dorsett:

Herewith I am sending you by registered Russian sample post 5 packages with roots all properly tagged and addressed. They are numbered 785, 786, 787, 788 and 789. I am afraid that with the exception of *Tremarctus* sp. (788) the material will not arrive in the best of condition as the temperatures here in Turkestan hover between 100° and 120° at midday. However, it is worth trying. I suggest to send all of this material to Chico if it should be alive. No. 785, a Caryophyllacea of very ornamental habits, may be appreciated as an alpine in dry, hot regions, where few small plants are able to thrive.

Turkestan is a hot land, it is only 8 A.M. while I am writing and one perspires already heavily. I suppose it is about 100° Fahr. On the market one finds lots of apricots, cherries, plums and cucumbers. The fruits are all of small size, apparently nearly all seedlings and according to my interpreter, all imported from Persia where in the northern part between Wadsmar and Peshked he saw whole mountainsides covered with wild apricots. I saw trains of camels come in these last days all loaded with cucumbers and apricots and the last fruits are sold at auction at 2 Kopecks per pound. I will buy me several pounds today and send the seeds. They are sweet kernelled and perhaps something interesting will appear among them. Just before closing this letter I find out it is again a holiday today and the post office will probably not

1045.

accept any packages today. I will try, however,

I remain with best of greetings,

Sincerely yours,

FRANK W. MYER.

Samerkand, Turkestan,

June 27, 1910.

Dear Mr. Thirchild:

Alone in Samerkand! My assistant got yesterday tidings from home that his presence was urgently needed as the man in charge of his farm was severely injured by a horse and he left me. The interpreter, Mr. Lyssel, had left the day before as his eyesight and general health had become rather bad these last days on account of the great heat and so it has come to pass that I am left alone in this far away land, with only a mere smattering of Russian and no knowledge at all of the Sart language which is much spoken here. I will get out of it, however. We found a German who may be willing to go with me. His looks, however, didn't please me and to go with a stranger in some out-of-the-way places, with the necessarily large amount of money I generally have with me, is not a safe proceeding.

I had been expecting a bunch of mail these last days, but my hopes haven't realized up to the present. I have, how-

ever, many things to tell you relating to these last years' experiences.

Well, my last letter was from Moscow, dated June 9, 1910, and it was again a holiday, of which the Russians only keep about 30 a year. The next day I went with the inspector to the Experiment Station about 4 verst from the city. Mr. Bonistowsky, who used to be the director, had left and is now in Bashkent; Mr. Meshkoff the present man in charge was in Moscow and I came only in contact with some minor officials. Well, one of them was all right, but the others had a fright when they heard I was a foreigner and had the audacity to visit an Experiment Station in Central Asia without first having gone to the police and obtained a written permission. They told me they would be recommended, etc., in case they took me around. Well, the best I could do was to inform them that this was the first time in my life that I had been denied admission to an institution of learning, like an experiment station is, but that I didn't wish to bring them into trouble and unpleasantness by my presence. And herewith I left them. There wasn't much to see, anyway, some plots with cotton, some alfalfa fields, various cereals and a horse-breeding, where somewhat more could be indulged in without any harm.

On Saturday June 11 my sister had to leave early, but I got a message from the police to appear before them. Something new, I thought. Well, we went and the whole thing was nothing

but a curiosity to see me. The Captain, or whatever his rank was, asked my interpreter whether I really was a botanist, whether I only had interest in plants and more or such suspicious questions. He then told us that permissions had come from St. Petersburg, allowing us to photograph trees and plants only and that for every locality I wanted to visit, I had to get a special permission, either written or verbal, depending upon the importance of the place. But--under no consideration would I be granted permission to go to the Afghanistan frontier as foreigners were not allowed! Well, I knew already most of these matters, having made inquiries beforehand. We thanked the police officer finally and I was glad to have my passport back again, which they had kept all the time I was in Ashabad.

We left the same day for Iser, where we arrived after midnight. The next day, June 12, was exceedingly hot and the light intense so as to make one almost blind. We took out the collected herbarium material which wasn't all dry yet and gave it an airing--much trouble herbarium material causes on a journey! In Iser there is a pretty park where tall specimens of poplars occur (Populus alba pyramidalis). I also saw there for the first time in my life some fine large specimens of the "Kerach", (Ulmus campestris umbrellifera) very striking trees they are, with their umbrella-like shape and a dense mass of rather small foliage. These trees will be highly appreciated by our settlers in the desert regions. These elms, although

drought resistant, have to be watered, however. Other trees in that park are Acer negundo, Robinia pseud-acacia, Boehmeria japonica, Ailanthus glandulosa, Gleditsia triacanthos, Salix babylonica, Populus pomiferum, Catalpa bignonioides, Populus alba, Cydonia vulgaris, Prunus armeniaca and Ficus communis.

On Monday, January 15, there was a great market held in Herw. Turcomans, Afghanistaneese, Kirghisians and many other wild looking inhabitants of these regions here mingled through one another. The products that were brought in were mostly very poor, like the fruits and vegetables for instance. I bought some barley, millet and wheat, but found little new. In the afternoon we hired a cart and went to a German colony 30 werst N.E. of Herw. Here I went to see cotton and alfalfa culture at the edge of the desert and also to get me a strong chap who could go with me instead of Mr. Nyssel, who could not walk any more in the heat. We arrived late at night and found the family we were looking for. The next day was consumed in talking about the situation and seeing the crops and the desert. The cultures are not in the pitch of perfection, as it is a rather new colony. The system of cotton culture is as the Turcomans have it, viz., a field is divided into a number of square plots, each plot with ridges all around. The cottonseed is sown broadcast by hand and the plots are flooded whenever they get dry. Cultivation of the land is not much practiced beyond keeping the weeds down. Well, the results of this

antiquated system of culture are: 1st, that the stand of the cotton is very irregular; 2nd, that much water is wasted by not cultivating regularly; 3rd, by not sowing in rows all of the weeding and cultivation has to be done by hand; 4th, in case of failure of water, as occurs often, the small plots of land dry out to such an extent that the harvest becomes almost nihil. The alfalfa fields, however, looked very nice and they found this useful plant their steadyest money maker. In fruit and vegetable culture one could clearly see that time and knowledge was lacking. In general one has to sympathize with such German settlers who are willing to rough it in such far-away corners of the Russian Empire, where they, at the utmost, are able to become owners of small plots of land, without having any of the pleasures or culture of the more progressive races of men.

The desert around Merw is quite interesting, the Camel's thorn, Alhagi Camelorum, covers tens of thousands of acres of land. It was in full bloom and its small, pinkish-purple flowers produced by the million gave color to the landscape just like the heath in Northwestern Europe does. This camel's thorn is a very useful plant here. First, it is a great feed for the camels who are said to love this plant better than any other wild herb. Second, it is mown, dried and used as a fuel, nearly all of the bricks in the oases are baked

through the heat of this plant. Third, it is a great sand binder, growing even in pure, sterile sand and as it is a Leguminosae, it prepares the soil by enriching it for better vegetation. Then we were told by a gentleman on the Imperial Estate "Murgab" near here, that the air, inhaled from a handful of dried flowers, is a sure cure for ^{em} rheumatoids. His own father was completely cured by it. He got this information from an old soldier who had it in turn from a Tekiner, a native of the desert. As I move along I may find out still more about this plant.

Beside the camel's thorn there also grows a very spiny acacia-like plant in the desert. It is not ugly as a solitary plant, but it is a bad weed on all untrodden places; some Lyciums I saw too and a few minor things, but as a whole the desert flora is not rich in species. One finds, however, in the desert around here many canals, some still in use, some dried up, they say that some of these man-made watercourses are 3000 years of age and if so, there is surely "little new under the sun" for so far as irrigation is concerned. The present people here have a great hope for the future for so far as the bringing under culture of desert land is concerned. Large new canals are being dug, new settlements started and with present high prices of cotton, people can be comfortably off in some years' time.

Well, to come back to a new assistant, yes, on Wednesday, June 15, our man, a Jacob Juchs, had decided to go with

me for a couple of months at least. We returned that day to Herw, where we arrived in the afternoon. We went to the police and asked if we could take some pictures in the park, which was granted.

On June 16 we went to the Imperial Estate "Dargab" where fine things were reported to exist. Well, first we had our troubles with the police. There was a minor official in charge who took our passports from us and who wouldn't allow any photographing to be done, although it was written in the book that I am allowed to do so. (My name is booked at every police station in the whole of Central Asia.) Well, then, we looked at the very imposing avenues of the Alsatich, saw the fruit-orchards where the apricots were fully as heavily loaded as in California, saw the nurseries with fruit and ornamental trees of many kinds. They publish a catalogue, but were at present out of it, but I was promised one would be sent me shortly. There are a few varieties of apricots and of pears and quinces, that seem out of the ordinary soil of which I hope to get scions and plants. Well, after we had looked around for a couple of hours we went back to the police again and this time found the Chief himself, a tall, elderly, soldier-like chap, who had looked up all our references and had come to the conclusion that when St. Petersburg allowed me to take photos of trees and plants, there wouldn't be any crime committed if he also permitted me to do so, but to be on the safe side, he gave a swartly policeman to show us the beauties of the place.

On Friday, June 17, we left Kerv again for Shartchui this time with the assistant who had gotten his passports into shape. He is an honest fellow who served his three years as a soldier and loves the mountains better than the routine work of his little farm.

On Saturday, June 18, we first paid a visit to the police where we were informed that, although photographing was allowed in Central Asia, this district was exempted from it, as it was in Bokhara and the political agent in the city of Bokhara alone had the power to give that permission. No wonder that so few photographs of Central Asia are to be had, isn't it? Well, I then called on Mr. A. N. Palletsky, in charge of the sand-binding work along the railroad in Central Asia. I found him to a most pleasant man, who, by his hospitality and willingness to show, made me forget all the unpleasant experiences with the police. We had a railroad trolley come before his house and off we flew over the imposing Am-daria river, along whose level shores some of the world's finest melons grow, along sandy hills and plains, all planted with sand binding plants until we were 6 or 10 verst out, where the plantations were the oldest. It is most interesting to see how the tall bushes of Calligonum caput-medusae, C. arborescens, Salsola Richteri and Elaeagnus armodendron have grown into some sort of a forest in a soil that is almost pure sand and worse than that, a moving sand! And very stranger even, to see how a few seeds of the Chinese

tree of heaven (Ailanthus glandulosa) have found lodging between these real desert plants and have grown vigorously too and are of fairly good sizes now. Mr. Pallitsky said the real saxaul, (Haloxylon ammodendron) is an aristocrat, in other words, it is not a plant one can plant straight away on a shifting sand, first other vegetation has to make the soil firm, after that the saxaul will grow. To arrest a shifting sand-hill, one first has to plant various Calligonums, then Salsola Lichteri and after that Haloxylon ammodendron. Of the Calligonums there is an immense mass. Up to the present 57 different species have been found already and there are still more. However, only 30 have been scientifically determined and the others will come in the course of a few years. However, some of these Calligonums are strictly local plants and may not readily bear acclimatizing, at least Mr. Pallitsky found that the species from around Tashkent and Astrakhan do not stand the long intense heat at Chertchui.

After having seen the large plantations where the plants are now spreading rapidly and require practically no care any longer, we paid a visit to the nurseries where seeds are sown and young plants raised. They had experienced a very late frost and the stand of the plants was not what they wished it to be, still it was interesting to see how the sand was held in check by long straw stretched over it. This kept in place again by little sticks set across it at the ends. Bedges of Tamarix sp. and of the wild form of Alhaghus angustifolia kept the great winds off. The seeds are all sown in the autumn and

have to be kept moist as long as they haven't germinated; when once above the ground, however, great care is necessary in keeping them almost dry, as otherwise they perish.

Then, we also saw the very interesting little museum that Mr. Palletsky has installed. There various large and rare specimens of sand-binding plants may be seen, photos and models of plantations, herbarium material, seeds and some specimens of zoological, geographical and geological interest.

Then, Mr. Palletsky showed me with much pride an *Opuntia* cutting, which he had obtained from us through the St. Petersburg Botanical Garden and which cutting was growing nicely. He was very grateful to have it, he had 6 more distributed at different points in Central Asia. But then we began to talk about lowness of temperatures here and he said that the minimum had been 14° Reaumur, well, then I said that all of his spineless *Opuntias* would go and even long before that. He was very sorry and surprised at that and told me that Prof. Hansen had told him different, otherwise he wouldn't have done so much work to try to get them. Well, I told him of the experiences at San Antonio where all the spineless forms of *Opuntias* froze when it was 12° Fahr. "But," he said, "you have *Opuntias* that stand great frosts." Yes, I answered, but they are very spiny. Well, that doesn't matter, he said, I would be very much indebted to you if you could secure me some cuttings of the larger forms of the hardy kinds, I am willing to send you seeds or cuttings of all sorts of desert plants in return.

And now I wish, Mr. Fairchild, you could send Mr. Palletsky a few cuttings of some of our hardier *Opuntias* that can be used as cattle fodder, after the spines have been burned off. He also wants the address of a party who can send him a kerosine lamp to burn off such spines.

He has given me several bags of seeds of *Ealligonums*, *Salsola Richter*, *Ealoxylon ammoleudron* and promised to send in the autumn seeds of the best 12 melons from around Chartchui, cuttings of the very promising *Populus truinosa*, an extremely drought resistant ornamental tree and will send me a pood of genuine Khiva alfalfa seed, a variety of alfalfa said to be better and more vigorous than the ordinary Central Asian kinds.

Mr. Palletsky's address is simply W. A. Palletsky, Chartchui, Turkestan. He is one of the few men here in Central Asia who is in love with his work and has retained enthusiasm, although he has been here now for nearly 20 years. He said in case we wanted to start some Saxaul plantations in America he would gladly assist us in getting seeds and cuttings for them in quantities.

Well, on Sunday, June 19, we left Chartchui again and arrived in the afternoon in New Bokhara, which is a small place. But I just came in receipt of a large package of mail and will postpone writing until through with it. It is very bad that I am without any fellow to assist me. 8 P.M. I just sent a cablegram: SECRETARY, AGRICULTURE, WASHINGTON. FIFTY DOLLARS BILANCE. REPLY. This is in answer upon your letter

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of Day 27. Well, tomorrow more.

I remain with kindest of greetings, also to all
in the office,

Yours respectfully,

FRANK H. MEYER.

Samarland, Turkestan,

June 28, 1910.

Dear Mr. Fairchild:

Before I am going to answer your letters I will first finish my scrabble on the past trip. Well, as I said, I arrived in New Bokhara on Sunday afternoon. On Monday we went to the police for passport and photograph matters, but it was a holiday again and we couldn't do a thing, so we went to Old Bokhara and had a glimpse around. Mr. Russel, the interpreter, pretended to know all about the town, but--I found him to be misinformed, like I had experienced several times these last days and his eyes had become so bad these last hot days, that when he passed from the light into the shade, we had to assist him, otherwise he fell into holes and ditches. So we returned in the evening, without having seen the grain market or Mr.

Parkinson. The next day, Tuesday, June 21, we went again to the police and saw the political agent, a gentleman of shrewd appearance and no seeming much power. He said that I would be

permitted to travel in the Kaiser's country in Central Bohemia and take photos of botanical subjects, he thought it advisable, however, that I shouldn't go alone and wishes me to have a Bohemian official go along, I having to pay him a salary and subsistence. My route of travel he also wishes me to send him. Well, I answered that I couldn't decide right on the spot how these matters will go as I expected important mail in Samarkand and have to supply me yet with a text and some more camping outfit. Well, that was all right he said, he only wished me to know that Bohemia is not an easy country and travelling alone without a native or some standing would be extremely difficult. He also said I will not be allowed to go near the Afghanistan frontier, as no foreigners are permitted to go there. Well, that was all.

In the afternoon we repaired again to Old Bohemia, took a horse and drove to the office of Dr. Schmidt & Co., where Dr. Ernest Wilkinson of the Reichardt Botanic Trading Co. resides. We found him and Dr. W. Scholze at home and had a long talk. The weather was very hot, 114° Fahr. in the shade, but Dr. Scholze went with us and showed us the grain market, the medicine shops and other points of interest as it became late, however, we made arrangements to come back early next day. And so we did. From Dr. Wilkinson we bought, too. We bought some seeds like wheat, corn, lupine, peas, and saw a real Surt garden where grapes, currants, apples, pomegranates, quinces, peaches and figs were grown. The pomegranates and figs have to be dried, however, except apples, but still they were ripe.

In general what I saw I cannot say that there was much of interest to be found among the seeds and plants. They are apparently all well known. For fruits I am apparently somewhat early yet. Grapes are just coming in, but they are small and not very fine. The apples are greenish, and though ripe, of a very insipid taste. Apricots are small and apparently most times seedlings, though a few of fine, melting flavor are once in awhile seen. The plums one sees now are those of Prunus insititia and perhaps also of P. divaricata and there is much variation among them, although the fruits are small. The muskmelons are just coming in and the kinds there are, the one greenish and generally split open and the other yellow ones small in size, but of very sweet and melting flesh. I was assured later in the season fine large plums and still better grapes and melons are coming, but that is a few months later. Mr. Donohue will be on the lookout on the market for anything striking and will keep in touch with me. I found both Mr. Parkinson and Mr. Donohue very pleasant young fellows and we regretted that my stay couldn't last a couple of months.

Thursday afternoon June 23, we left New Dushara and arrived the next morning in Samarakani and from there on you know already how I fared. I had been in hopes yet to get a telegram from Richs, the assistant, telling me how matters stand with him, but--up to the present I haven't heard a thing. To take a totally new man with me to the Hissar Mountains, a man whom I do not know the least little bit, is risky, not to say anything stronger. Maybe I will have to go to Kashgari

1959.

and first talk letters over there with some agricultural people of whom I have the addresses. My point of start for the mountains, however, is this city; the trip will probably be between 2 and 3 months and I may come out in Harbin.

And now I will come to the answering of the numerous mail.

Letter of May 6, 1910, regarding cold resistant sugar cane for the St. Petersburg Botanical Garden. I am sorry to see that you couldn't find anything about Saccharum narenga. I read sometime ago in a book or paper, I forget now what the name of that publication was, or short article, that the red sugar cane from Central China, where the cuttings are kept in dugouts in the cold season, is not S. officinarum but S. narenga. And so I came to speak about it to Dr. Partelsen, who looked up the name. In case I am again in China I will send you some cuttings of that sugar cane, just to see if it is perhaps another species.

Letter of May 8, 1910, re varieties and species wanted of Pisum for Dr. Vinal. Yes, I will be on the lookout for them, sorry he didn't inform you somewhat earlier, then I could have collected more.

Letter of May 9, 1910, about samples of nuts. If I didn't number them. Well, just as you said, I thought they were wanted for the collections, the more as nuts rarely if ever come true to seed. Of course, in case somebody wants to sort them out any way, there is no objection to it; on the labels I always state the date and place where obtained and a number can easily

be given them.

Letter of May 16, 1910. I am very glad you liked the postal, showing poplars in a street in Tiflis. When I come back safe and sound some of these years I will show you many post cards, how not only Tiflis, but also other interesting cities look in the Caucasus and Central Asia.

About giving the letters you sent to me a serial number, yes, that is not a bad idea, but won't it cost a whole lot of work to those writing them, as the last written letter has to be looked up every time. I leave that over to you. Yes, the distances between us are very great; especially in times of lonesomeness or trouble, as I am experiencing now, one would love to have a quiet chat about what to do. And Mr. and Mrs. Bell off for the Antipodes, my, what a fine trip. I envy them; for those regions especially, I wish to see yet some day.

Letter of May 17, 1910, about the different aspects, Pirus salicifolia shows us. Yet, true, on a rather moist piece of land with some shade, this pear will look totally different from a specimen grown on a sun-kissed, dry, mountain-side. In silveryness of the leaves, especially, there are all sorts of variations. In my opinion it is of great value as an ornamental tree in the southwestern regions of the United States. The region around San Antonio especially ought to suit it. The melons shown on the post card from the Caucasus are apparently only autumn melons, for when I came to Tiflis there

were none left any more. I tasted one in St. Petersburg and though by far not as juicy as the muskmelons, I still think they could profitably be grown in limited numbers for high-class hotels and restaurants. At present I do not know enough about their requirements to say in what section of the United States they should be grown especially.

Letter of May 17, 1910, about the early Apricot,
Harrst, No. 499, being dead when opened up. Yet, I am writing Dr. Hallow asking if he will please duplicate his shipment. He will surely do so, for we can offer just as many good things to him as he to us.

And Brownsville coming at last in your office. Great Scott, that is a formidable affair. Can't you try some of the Central Asian melons there? I am almost sure they will do well there. I will be on the lookout for good things for them there in South Texas, but--such a strange climate it is there, with those occasional freezes.

Letter of May 20, 1910, re Dr. Taylor's remarks concerning the superiority of samples of apricots sent in. Yet, when winter arrives and I am again in apricot regions, then I will send a lot of budsticks or young trees. I was shocked to see your post card that Dr. Halloway had again a cave-in. Oh, I suppose it is that beastly moist heat in Washington, that brought it about. I believe you are right, that a six months' exploration trip to Japan would be a most excellent remedy,

but I would almost think it too much for a man like Dr. Galloway who was never abroad. I rather would suggest Ireland, Scotland or England, where the climate is so much more even than in Japan and where language difficulties are not very great, while there is difference enough between those lands and America to make it interesting. I know what you say that the dangers of the desk are just as great as those of the field, that is for conscientious, hard working people; the bigger rats of desk people, however, do not run chances like Dr. Galloway, yourself and many others, and such people surely have a much easier time than the man out in the field, though I would rather die than to exchange places; I still shiver when I think of my forced captivity last summer in Suifu, near Peking, while driving away on a bullet. The heat is full as great here in Central Asia, but I move about, see new things all the time and have a feeling I am of greater use to my fellow-men than when sitting at a desk in a sweatbox of an office.

Letter of May 25, 1910, re getting a new interpreter.

Well, your good hopes haven't been realized and neither have mine. I also expected Dr. Ryssel to turn out differently, the more as he has been so many times in Central Asia. He never informed me that his eyes and feet were so bad when hot weather was on. I had some severe talks with him on this subject, but what avails it after one once has set out. He posed as one knowing all about Central Asia, but--lots of it was for say.

1883.

In case I had found a real strong, willing fellow I would have found a whole lot more, especially in the line of wild vegetation. But the man couldn't walk or see at last and what can one do then? In case some accident befall him, his family would have put it to my fault and as I lost his wife and his six or seven children, I felt duty bound not to expose him to too much. It is better he has returned again, though I shall be alone now. I hope to remain, however, in correspondence with this Mr. Byssel, for he can supply us with a few things that other people do not know of. As soon as I know whether my authorization will be renewed, I will give Mr. Byssel an order for seeds and plants of Asparagus verticillatus, for which I have a great collection and for a few more things that I have in my list.

Letter of May 27, 1910, about the balance I wrote you in my letter of April 19, 1910, is being probably \$500.00.

Well, I cabled you yesterday and I hope you will make use of it. I was assured at the telegraph office that you would get the cable today. My expenses the last fiscal year have been very great, owing to the much greater salaries one has to pay in Russia than in China. This coming year I hope it will be somewhat better in this line.

My thanks to you for being contented for the present with a quarterly itinerary report. It is really a great bother to send them once a month, the more as I am so often in out-of-the-way places just at the time such a report has to be written.

Letter of May 25, 1910, in which you state that you wrote Mr. Kollow a cordial note of thanks for his courtesies extended to me. My hearty thanks to you, Mr. Fairchild, for this. Mr. Kollow is one of the finest men I have met here in this great Russian land and he was always willing to give me what I wanted; even without I asking for things, he offered them. As to regards what he wants, well, I wrote you a long time ago in a letter about it which letter you acknowledged. It was about publications on dry-land agriculture, citranges, persimmon scions, seeds of Malus sargentii, etc. I cannot just now lay my hands on the notes I made about him, but I am sure you will be able to locate again that letter.

Letter of March 28, 1910, Yes, that turning over of the cart in the mountains of Geok Tepe, has left its mark yet on me, viz., my left shoulder aches me considerably when I make an unexpected move with my arm. It may be a few months yet before that pain leaves me. I see with great sorrow how badly the alfalfas fare, which we with so much trouble collected on the road from Kiflis to Vladikavkas, and I packed them in particularly dry and in small packages, as I had a feeling they wouldn't travel well in this time of the year.

About hardness of pomegranates in Washington. Yes, I think there are several such varieties. One grows for years already at the west entrance of the Smithsonian Building. Have you ever seen it? This is double flowering variety.

And that the little orange lily I found somewhere in China or Korea is growing so well at your place is a pleasant news to me. The opinions of both Mrs. Fairchild and Dr. van Fleet are greatly valued by the undersigned. I do hope it will be an addition to our hardy garden plants. Yes, I too often dwell in my mind on your place in the woods. I see Sandy moving about between rows of cock's combs and Amaranthus and Florie religiously weeding the peking lawn sedge and you mixing cement for a permanent cold-bed in which to over-winter tender plants and Mrs. Fairchild tells us that tea is ready.----- And then all of a sudden I look out of my hotel window and there I am in quiet Samarkand, where low globular acacias border the side walks and where tremendous tall white poplars define the watercourses that run everywhere all through the city. And the air is warm, yet not unpleasant and a Turcoman passes by, hawking black currants and cherries, shouting their names in Russian (Acherny smarodnaia ee vishna!)--Yes, let memories pass by, we are too young as yet to indulge in them. Life is so very strange and none of us really knows for what we have to go all through it.

I have quite another lot of correspondence to answer, too, and besides that working on my financial and itinerary reports, so I will conclude this rather lengthy letter. With my best wishes and greetings, also to all in the office, I remain

Respectfully yours,

FRANK H. MEYER.

1066.

Samar kand, Turkestan,

July 1, 1910.

Dear Mr. Fairchild:

Herewith I am sending you my financial accounts for the past quarter (April, May and June, 1910) and also my itinerary report for the same period. The first I hope Mr. Estabrook will kindly take care of and the last I suppose you will peruse yourself, since Dr. Henn hasn't any longer charge of such work.

About the Balance, I have left and of which I sent a cablegram to the Secretary, how are we going to settle this? It will probably take a few months yet before the new authorization and the money reach me, so I suppose it is better that I retain that balance for the present yet.

As soon as you find time, however, I would be very pleased to know how my finances stand. The last letter I received on this subject was from Mr. Estabrook and dated November 9, 1909, and it related to my accounts for August and September, 1909. I suppose, however, all the accounts since have been passed O.K. Otherwise I would have heard something about them.

I found me a man again, willing to go in the mountains and rough it, but he does not know the Tart language or any local dialects. He speaks German, Russian and Polish, however. I am also in negotiations with an old hunter who retired last year from his position as game-warden in the

Hissar Mountains, the very regions I want to explore for the wild pistaches, bears, plums, almonds and leguminous plants. He hasn't decided as yet upon my proposals. Lots of bother, this everlasting changing of men! There ought to be only one language in this world of ours. It would save us all so much unnecessary annoyances.

Well, trusting this letter with its enclosures reaches you in good shape, I remain, with best of greetings, also to all in the office,

Yours respectfully,

FRANK W. BAKER.

INTERIM REPORT OF FRANK W. BAKER

COVERING THE PERIOD OF APRIL 1st to JUNE 30th, 1910.

April

- 1 In Tiflis, Caucasus. Correspondence tended to and parcels with plants sent off.
- 2 In Tiflis, Caucasus. Correspondence tended to, photos put in order.
3. In Tiflis, Caucasus. Baggage packed in and left by railway for Elisavetpol.
- 4 Excursion on foot from Elisavetpol to vineyards in Helenendorf, Caucasus.
- 5 Back from Helenendorf to Elisavetpol on foot. Collecting *Medicago* on the way.

April

- 6 Excursion on foot from Elisavetpol to Karaji, collecting *Medicagos* on the way.
- 7 Back on foot to Elisavetpol. Seeds bought in Elisavetpol.
- 8 Excursion in mountains near Elisavetpol. Collecting *Medicagos*.
- 9 Left Elisavetpol by train for Yeflay and went by carriage to Gook-Lapa on the road from 9 A.M. to 10 P.M.
- 10 Inspecting collections of Eric of M. A. Shelkownikoff in Gook-Lapa
- 11 Indoors, heavy rains, nothing out.
- 12 Excursion to mountains near Gook-Lapa, collecting plants and herbs. Back by carriage from Gook-Lapa to Yeflay. Arrived at midnight.
- 13 By railway from Yeflay to Gilis. Plants collected in Gilis.
- 14 Plants shipped off, correspondence attended to in Gilis.
- 15 In Gilis. Visit to Botanical Gardens, various people and to bank.
- 16 In Gilis. Correspondence attended to.
- 17 In Gilis. Correspondence attended to and herbarium material bought.
- 18 In Gilis. Correspondence attended to and herbarium outfit looked over.

April

- 19 In Tiflis. Correspondence attended to and horse-drawn outfit bought.
- 20 In Tiflis. Correspondence attended to and baggage overhauled.
- 21 In Tiflis. Correspondence attended to and seeds described.
- 22 In Tiflis. Correspondence attended to. Parcels shipped off.
- 24 In Tiflis. Correspondence attended to. Notes described and shipped.
- 25 In Tiflis. Studied all day in Botanical Gardens and had conference with various authorities in that regard.
- 26 In Tiflis. Conference with Mr. Rollet, Dr. Schmidt, Dr. Tiftenberger and others.
- 27 In Tiflis. Packing and shipping non-valuable baggage to Gaku. Correspondence attended to.
- 28 Left Tiflis for Baku on foot. Collecting plant extracts.
- 29 Left Baku for Dushet on foot. Collecting plant extracts.
- 30 Left Dushet for Tassendura on foot. Collecting plant extracts.
- May
- 1 Left Tassendura for Gaku on foot. Collecting plant extracts.

May

- 2 Left Vladivostok for Lark on 1306. Collecting plants en route.
- 3 Left Lark for Vladivostok on 1306. Collecting plants en route.
- 4 In Vladivostok. Sent seeds and left by railway for Pjatigorsk.
- 5 Arrived in Pjatigorsk. Conferences with a new interpreter.
- 6 In Pjatigorsk. Plants packed in and described.
- 7 In Pjatigorsk. Plants shipped off and correspondence attended to. Visit to vineyards at Cheras.
9. In Pjatigorsk. Visit to Esenbuki and back to see native vegetation and herbarium.
- 10 In Pjatigorsk. Visit to Gislavodsk and back to see an arboretum. (Heavy rains that day.) Conferences with new interpreter.
- 11 Left Pjatigorsk for Vladivostok, arrived there at midnight.
- 12 In Vladivostok. Visit to police, Governor's office and bank.
- 13 In Vladivostok. Visit to police, Governor's office for renewing of passport, left by train for Chassay-Fiurt.

May

- 14 Arrived in Chassav-fiurt. Visits to fruit tree nurseries, famous vineyards and orchard.
- 15 Left Chassav-fiurt for Petrovsk by train. Visit to market in Petrovsk.
- 16 Left Petrovsk for Demir-khan-shura on foot, collecting plants enroute.
- 17 Visit in Demir-khan-shura to fruit gardens and plantations.
- 18 Left Demir-khan-shura for Petrovsk on foot. Collecting plants enroute.
- 19 Visits to viticultural school and to neighboring hills and left Derwent for Baku by train.
- 20 Arrived in Baku. Correspondence and baggage matters attended to.
- 21 In Baku. Plants shipped off. Correspondence attended to.
- 22 In Baku. " " " " " "
- 23 In Baku. Seeds bought and " " "
- 24 In Baku. Visits to markets, herbarium specimens made in shape, photos made in order.
- 25 In Baku. Correspondence attended to; old interpreter sent off.
- 26 In Baku. Seeds described and packed in for shipment.
- 27 In Baku. Seeds and plants described and packed in for shipment.

May

- 28 In Baku. Large case with seeds shipped off. Correspondence attended to. New interpreter arrived.
- 29 In Baku. Correspondence attended to.
- 30 In Baku. Correspondence attended to and baggage all packed in. Left in evening for Krasnowodsk, Turkestan, by S. S.
- 31 Arrived in Krasnowodsk, Turkestan. Police matters attended to and parks visited.

June

- 1 In Krasnowodsk. Passport matters brought in share. Plants collected along seashore; left for Kizil-Awart.
- 2 Arrived in Kizil-Awart. Visit to grain market. Left for Barcharden by train.
- 3 In Barchar-den. Perbrium material looked over. Negotiations with cart men.
- 4 Excursion to mountains near Barchar-den. Collecting plants.
- 5 Botanizing in mountains near Barcharden. Collecting plants.
- 6 Back from mountains to Barchar-den. Collecting plants enroute.
- 7 Left Barchar-den by train for Askabad. Visit to market in Askabad.

June

- 8 Looking over herbarium material. Correspondence attended to in Ashtabad.
- 9 In Ashtabad. Plants sent off. Seeds bought.
- 10 In Ashtabad. Visit to experimental station.
- 11 In Ashtabad. Visit to police. Left Ashtabad by train for Herw.
- 12 In Herw. Overhauling herbarium material.
- 13 In Herw. Seeds bought in grain market. Left by cart for Kozilkovsky.
- 14 In Kozilkovsky. Arranging for a new interpreter, inspection of cotton and alfalfa cultures.
- 15 Back from Kozilkovsky to Herw by car. Photographing trees in Herw.
- 16 Visit to Imperial estate Lungab in Bairat-ail, inspecting fruit garden and nursery.
- 17 Left Herw for Chertchui by train.
- 18 In Chertchui. Visit to police and Mr. Filletsky.
Inspection of sandblasting experimental plantations.
- 19 Visit to country around Chertchui. Left for New Bokhara.
- 20 Visit from New Bokhara to Old Bokhara.
- 21 Visit from New Bokhara to Old Bokhara. Conferences with Mr. Farquison and Donohoe of the Reichardt Asiatic Trading Co.
- 22 In Old Bokhara. Seeds bought. Fruit garden inspected.

June

- 23 Packing in of baggage. Left New Bohara for
 Samarkand by train.
- 24 Arrived in Samarkand. Paid off Mr. Lyssel, the
 interpreter. Correspondence and notes looked
 through.
- 25 Visit to markets in Old Samarkand.
- 26 In Samarkand. Visits to parks and gardens. Assis-
 tant paid off.
- 27 In Samarkand. Correspondence attended to. Cable-
 gram sent.
- 28 In Samarkand. Correspondence attended to.
- 29 In Samarkand. Visit to Horticultural School and
 Filatoff vineyards.
- 30 In Samarkand. Visit to grain market. Fillets bought.
 Correspondence attended to. Negotiations with
 new interpreter.

1075.

Samarqand. Turkestan

June 28, 1910.

Dear Mr. Fairchill:

Herewith is a picture of a fruit stall in the height of the season as kept by a Tart fruit dealer. Just now there are no grapes yet here, but some very large appricots may be seen, also apples, small plums, yellow, red and black cherrie, raspberries, black currants, nectarines and cucumbers. Hoping all is well with you and that the weather may be cool, I am with best of greetings,

Yours very sincerely,

FRANK P. MYLER.

Samarqand, Turkestan,

July 2, 1910.

Dear Mr. Dorsett:

I am in receipt of that weighty letter of yours of May 23, 1910, and I herewith thank you for it. Yes, about these photo matters, etc., we have already conversed enough and both you and I have a goodly amount of other matters beside, so we will give this topic a well-earned rest for the present. And you yourself would give me a trained photographer along, Billy! I wish you were rich! or better, yet, come along yourself!

Many thanks for the news relative to the work and persons in our Department. Poor Dr. Galloway, he has surely been hit hard and of course, that really bad Washington climate is not very conducive to rugged health. I wouldn't live myself there very long if I had to be cooped up in a little office.

I am truly glad to hear that Mr. Bisset was quite pleased with conditions he saw in our various stations down South and out West. His remarks as a man fresh from Washington must have been often suggestive.

And Mr. Powell ill and Mr. Taylor also poor. Good Heavens, what are you people going to do if such sad things keep coming along. Desert Washington and establish a new capital in a more bracing part of the United States!

Yes, you will get your hands full with prickly Brownsville also coming into our office. Beware of it, it is a little porcupine, but with careful handling you still may find it an attachable creature. Dr. Mann out of our office. So, so. I hadn't expected that. And other changes still in the process of evolution. Nothing is permanent in this vale of tears. You also say that Dr. van Fleet contemplates hybridization work with the early fruiting cherry from Tsig-si in case he remains at Chico. Well, that last sentence sounds alarming! I do hope he won't leave Chico for the next 5 or 10 years!

I am also in receipt of 10 post cards of yours dated May 13 (2), May 18, May 19, May 20 (2), May 24, May 25, and May 26 (2), announcing receipt of various letters and shipments. I am very sorry to hear how badly all of the Medicagos fare while in transit. Your card, from May 20 gives a good idea how the various things sent stand travel. Pomegranates are the best, grapes come next, then apples, then fourth and then Medicago roots. Well, it is better to have tried and to have failed than never to have tried at all. Of some of these wild Medicagos it is almost impossible to obtain seeds in any quantity as sheep and goats devour them constantly, that is, at least, in the Caucasus.

If all things go well, I may leave within a few days for an extended trip in the Kizil Mountains. I haven't found the right kind of people, however, to accompany me.

Well, wishing you good health and spirits to keep up your manifold duties, I remain, M. D. Bennett,

Sincerely yours,

FRANK L. BENNETT.

1078.

Samarland, Turkestan,

July 4, 1910.

Dear Mr. Churchill:

As things stand now, I may be able to leave tomorrow or Wednesday for the Bissar Mountains. I got an interpreter and a guide, have seen the police authorities and am arranging for horses. (We cannot go by carts or other vehicles.)

It just came into my mind that my bond expires August 3, 1910 and I am herewith enclosing my check for \$1.00. In case the authorization gets renewed and these good people apply to you, would you then please settle this matter with them.

Otherwise, I have little of interest to mention. My life is that of the "Wandering Dutchman;" many ups and downs!

Well, goodbye to you all,

Respectfully yours,

FRANK A. MAY R.

1079.

Tashkent, Turkestan,

August 3, 1910.

Dear Mr. Dorsett:

Some days ago I sent you from Tashkent 2 small packages by registered Russian sample post. They are numbered 789 and 790 and contain a root of Tremurus sp. and a few bulbs of Tulipa sp. I think the best plan would be to send both things to our bulb garden at Hollington, where they surely will thrive better than in any other part of the United States I know of. I am enclosing herewith the notes belonging to these two numbers and also duplicate notes belonging to a large shipment I made today and of which I am writing Mr. Fairchild.

I am also in receipt of your letter of June 6, 1910, with the clipping from "Everybody's Magazine" about the wonderfully large fruits of Tashkent. What a liar this Mr. E. Alex Powell (F.I.C.I. (?)) is. I wonder why magazines love to print such deceiving statements! Yes, I will charter an aeroplane to bring home that stuff, not a steamer as you suggest. That is too old-fashioned.

Yes, I see how you are to accompany Dr. Galloway. Galloway and I certainly do wish the Doctor will derive great benefit from his far journey. It must be very strange for him to do such a thing as crossing a large ocean and land in a totally strange country.

I am these last weeks in great troubles on account of not being able to find the right sort of an interpreter or an assistant. I have had experiences already with non-hardy fellows, with a swindler, with some hard drinkers and with very incompetent help and I am tired of the whole lot. I have seen a good many people of late and talked matters over, but--Burkestan is a poor land to obtain a good helper. The good men have permanent jobs and cannot leave and the bad, shiftless element is about of such a nature as there are so many in California. Incompetent, lazy and much given over to drinking, whenever they get paid off. I really do not know what to do at the present. Still, somebody I will find, even if it is a middling bad chap.

Well, best wishes to you.

Yours very truly,

FRANK M. FOSTER.

1081.

Tashkent, Turkistan,

August 6, 1910.

Dear Mr. Fairchill:

Yesterday I forwarded from here to Batoum per Transport Co., Caucasus & Mercurius, 2 cases with seeds and herbarium material. These 2 cases will go via Schultz & Zimmerman, Agents, North German Lloyd in Batoum and the assistance of Mr. Alex. Heingartner, our Consul there, to Mr. I. F. Moosa, 2 Rector Street, New York City. I have notified all three of these mentioned parties and trust this shipment will reach you a month or so from now.

I am enclosing herewith the notes (inventory) belonging to this shipment, but I have many remarks to make besides.

Among the seeds there are Amgdalus communis, A. spinosissima, Cerasus prostrata, Cerasus microcarpa, Prunus divaricata, Campanis spinosa, and perhaps the sand-binding shrubs which I would like to see in the hands of Professor Mason. Of the Prunus divaricata, Prof. U. F. Hedrick at Geneva also ought to have a few seeds.

The collection of apricot seeds, 1357a to 1362a, ought to be sown out in such a place where there is land enough to wait until they have fruited, so as to select the best varieties from among them. They are all sweet-kernelled and if large size, sweet-fleshed and sweet-kernel could be combined,

the arid & growing sections of America would have gained considerably.

Nos. 1378a and 1379a, Rosa xanthina? I like to see placed in Dr. Bisset's hands, who will know best what to do with them. The *Datura* 1389a is intended for Dr. True; its headache curing properties are perhaps well known already in certain circles.

The two samples of poppy seed, 1390a and 1391a, are also for Dr. True. The various Leguminosae will come of course in the hands of the various specialists; the cowpea, 1394a, seems to be a very rare variety! On the wheats and millets I am not much of a specialist and may be there is little new among them, although Nos. 1400a and 1401a I never saw before and the winter wheat, 1405a, seems to be an unusually good one. If the wheat and millet specialists would care to write to me, about what they most desire to obtain, I would know somewhat better what to look for.

In the Herbarium material there are many things of importance and before this shipment is carried into various cases, I would like to have drawn the attention of Messrs. Swingle and Mason to the *Pistacia vera*, *Arydulus communi*, *A. spinosissima*, *A. bucharica*, *Cerasus rostrata*, *J. microcarpa*, *Prunus divaricata*, and *Carparis spinosa*. To those interested in dry land vegetation also the above and the various *Tamarix*,

Lycium sp., Acacia sp., Acer sp., Elaeagnus angustifolia, Phedrae,
Juniperus sp., Calligonum sp., Colutea sp., Albici camelorum,
 etc. Rosa xanthina ? I like to be shown to Messrs. Bisset,
 Oliver and Dorsett and have them compare this material with the
 lot I brought with me from China, which last one is quite another
 rose, much lighter in color, of different habitus and less able
 to stand great colds than this one from Turkestan.

Messrs. Liger, Westgate and Brand will, of course,
 look at the Pedicaceae and other leguminosae, while Mr. Fitch-
 cock will certainly find some very interesting grasses among
 this material.

Then, there is a witch broom like disease on willows,
 very prevalent here in Turkestan which may interest Mr. White
 or Miss Patterson.

About the labels I enclosed in the sheets. I do not
 know what the custom is in the Herbarium in Washington and how
 my Chinese specimens have been treated, but I would suggest not
 to destroy my labels until you will have talked that matter over.
 Often one writes a remark on a label that is of value to a
 collector in the field, but not to a botanist in charge of a
 dry collection! Then, of the woody material I would like to
 see the Arnold Arboretum provided with a fair share. I also
 wish to see an entomologist and a pathologist look over the
 entire collection before it is stored away. Some interesting
 diseases may be found among the material!

Then, there are some seeds among this material,

like a few poppy seeds for the root for M. True; 5 small dried citrus fruit for the principle; 5 small ears for the insect specialists; 5 soil samples for soil specialist; Ragi for the specialists; scales on Pinus sp., on Quercus sp., and on Prunus Armeniaca; Galls on Abies sp., on Artemisia sp., on a grass, on Rosa sp., on Asiatic ?, on Scutellaria sp. These scales and galls for the Bureau of Entomology.

Then there is a bottle with various beetles which is intended for the beetle specialists in the Smithsonian Institution. There is also a dried-up mouse, which I found in the desert near Yachar-lan and which I take to be new, a specialist in the Smithsonian will probably be delighted with it and another one with the few small shells from Yachar-lan.

Well, I believe that is about all I have to send about this shipment. I trust it reached you in good state, remain with best compliments,

Respectfully yours,

JOHN L. SMITH.

1885.

Wash., D.C.,

August 7, 1910.

Mr. Peter Bisset,

Export Plant Inspector,

U. S. Dept. of Agriculture,

Washington, D. C., U.S.A.

Dear Mr. Bisset:

I am in receipt of 2 letters of yours dated June 10 and June 26 and I herewith will answer them.

I see Mr. Dorett will be away a little over 3 months. Oh, what a long trip you follow some days. I am glad to hear that it is not to be soon or far from the Brooksville; I just got a letter from Mr. Kennedy in Hong-ai, China, who tells me there in his neighborhood the disease hasn't spread yet, but attacks even the young seedlings when they first get out of the leaves. He says, however, that only one sort is attacked, viz., the one (one) tree, I believe of No. 302.

About Amelanchier canadensis I am also indeed to hear it and hope to see any one of the same time before it and the trifoliate peach. I will be on the lookout for a good many others; unfortunately, as you probably know, the time of the cherry is long since and the cherries and these regions are really full of them. In the same cherry and allied forms will probably, I am sure, look

I soon will know whether I can get a certain fellow or whether I will have to look around again. This morning a young gardener of whom I had been in hopes that he could have accompanied me, just told me he got a telegram offering him a good permanent situation in Astrakhan and I think he rather accepts that, than to wander a few months with me in inhospitable mountain regions. As I wrote Mr. Dorsett, Turkestan is a hard country to find capable men who are at liberty to change situations. Well, wouldn't a Russian in America experience much the same troubles in case he was somewhere near the Mexican frontier. I often compare the two countries and find they are, in certain points, very much alike.

I am coming to a close now and conclude with cordial greetings, also to the other members of our office.

Sincerely yours,

HAROLD I. FAYRER.

Washington, D. C.,

August 9, 1910.

Dear Mr. Fairchild:

As I announced on a card a week or so ago, I am in possession of your appreciated letter of June 12, 1910 and herewith I will answer it somewhat more in detail.

I am very pleased, indeed, to notice, how the various plants in your garden grow so splendidly and especially that my Chinese introductions feel apparently just as much at home in moist Washington as in dry North China. A pity I cannot see more of all these introductions, but--that is the fate of a collector; he collects and ships, but often never sees his plants again.

That the Quercus cornea has stood your Washington winter certainly amazes me. Could it be that after all this fellow comes from some high mountain in Southern China; it seems almost unbelievable that a denizen of almost tropical climes could stand our winter unprotected.

I see your remark about having acquired a piece of property from Mr. Leigh Hunt and where about is it situated? You say, "Not as inaccessible as that piece we looked at," but you don't say the least about its locality. Yes, I suppose that Mr. Dorsett with his hustle and Mr. Bisset with his great knowledge of practical gardening, will have transferred that piece of land in a model little nursery or even Arboretum perhaps.

And Dr. B. B. Galloway an Agricultural Explorer!

Truly, the Wheel of Life turns strange at times. I wonder how it will suit the Doctor. That is sure that you are having a triumph after triumph with your proposals! It certainly will be of great value to our office, this direct coming in contact of Dr. Galloway with plant introduction and exploration problems.

Now you ask me to write down a few of the problems I think Dr. Galloway might consider on his trip in China. Well, that is a big problem. Firstly, the usage of the various bamboos; then looking up the various citrus fruits along the southeast coast of China; then the wet-land productions, but especially the tumors that are grown for human food, like the various Aroids; the fibre plants of South China, like the various Jutes (Torchinus sp.) which plants I think could be profitably grown in our southern states; the hardier varieties of sugar cane which may move our sugar cane belt farther north; the hardier varieties of litchees grown around Poochow, Kweichow Province. These are said to be even better than those of Canton. Then there are the various forms of palm-trees, some of which may not be Eleocharis indica, but another species, at least I have seen herbarium material from Formosa and from Hongkong that was not D. indica, as we have it in North China. Then, there is the palm-fibre industry in South Central China, viz., Chamodora excelsa, which produces a very strong fibre

fit to make over mattresses from. It could be grown in the milder portions of our southern states. I don't think Dr. Galloway will go much in North China, but in case he should go the peaches, pears and persimmons are worth to be given another look over.

Yes, as you said, the establishment of a propagating garden near Shanghai is one of our main things. I hope the needs of something like it will be favorably impressed upon Dr. Galloway's mind. No, I hardly expect to meet the Doctor for before I am in Peking again, perhaps more than a year will have flown by and then we hope Dr. Galloway sits safe and sound again in Washington, D. C.

Yes, now, a few words about myself. I have had luck these last weeks, simply not being able to find the right sort of fellows to accompany me. What I want is an intelligent, hardy fellow of good habits, but to find such a chap seems to be exceedingly hard here in Turkestan. I have had experiences with hard drinkers; with non-hardy, weak characters, with one swindler who wanted me to pay 4 roubles to send a package off by parcel post, thinking I was a Carnegie or a Rockefeller. Then a few very incompetent ones came into my service, men who had lied about their knowledge of Russian and German; one of these last could not even read or write either one of the two languages and yet had boldly said he knew both well. And if there was only one language here it wouldn't be so bad yet, but

in the mountains one has to have people with one who know some of the native tongues, like Sart, Dushube, Chirghiz, Parsee and many more which are, although related to one another, still in many ways quite different. I have sent money to a Persian family near Terv to have one of them come up to me and go with me in the mountains, but up to the present they haven't even answered me yet. I also ordered my old Chinese interpreter Chow Hai Ling to come here in Tashkent and sent him also money. I suppose in about three weeks he may be here. I have been talking to several men these last days about getting me a good fellow willing to rought it, but up to now I haven't found the right sort of a man yet. As Mr. Schroeder, the director of the Agricultural Experiment Station, said to me a few days ago when I approached him on this matter: "Mr. Meyer, it is very hard to find a good man here in Turkestan, but it is still harder to retain them!" He too cannot find the right people to work in the Station. Well, the climate in Tashkent is not a healthy one, there is much fever and although the winter is cold, the summer is very hot and lasts long. I too don't feel as healthy already as a few weeks ago. I suffer from bowel troubles which is very prevalent here among all classes of the population. Do you know what I heard? That Hansen is again in Turkestan! He had ordered his former interpreter, A Dr. Dwyne from Moscow, I believe, to meet him here. We searched for this Dr. Dwyne,

but he had moved away farther north. Is Hansen here on his own account? Or could it be he has been sent out again by the Department? I hardly can believe that, however. Turkestan is an interesting land with all its drawbacks. The fruit here is plentiful and cheap and not kept high priced artificially as is done in America. If the Russian Government was more energetic, this land could supply Western Europe with early melons, grapes, watermelons and minor fruits, but Russia sleeps as yet. Her officials know certain things, but they are too lethargic to move. The day of the Slow hasn't come yet.

Well, Mr. Fairchild, where are you going to this summer?

Wishing you, Mrs. Fairchild and the children good health and good luck, I remain

Very sincerely yours,

FRANK W. MEYER

P.S. I got a letter from Mr. J. Fischer at Para, Brazil; he seems to be doing O.K. makes a good salary and has lots of work to do.

1093.

Tashkent, Turkestan,

August 10, 1910.

Dear Mr. Fairchild:

I have been receiving several letters from you of late and I will herewith answer them.

Letter of June 3, about seeds being received and identification of No. 1312a and 1314a, also sending some to Vilmorin, Andrieux & Co. You also mention that you have arranged to write to Prof. Bollow in regard to the grape varieties I did not obtain this winter. I suppose that also includes the alkali-resistant grape, of which you wrote me in Letter June 3 B. with the note of Mr. Kearny copies in it. I will write, however, Mr. Bollow for this one myself also. In letter of June 3, C. you say about Mr. Ryssel that he looks something of a fighting man; yes, he once might have been so, though not as much as he looked. When I came to know him the evening of life had descended already upon him, though his age was only 48 or 49; some people grow much sooner old than others.

Letter of June 3, D, 1910, informs me about packages of seeds and samples received.

Letter of June 4 A, 1910, with enclosure of copy of Mr. Taylor's letter of June 2, 1910, about the Unshu-like mandarins. Yes, these mandarins looked very much like Matsura although they were smaller in size than those usually seen in America.

Letter of June 4, 3, 1910, about Pelicagos received from Tintivorsk. Yes, I also received several post cards about this shipment which I answered in a letter from Greenland to Mr. Corsett.

Letter of June 4, 3, 1910, re Miss Austin's request that I state in my notes whether wheats and barleys are summer or winter varieties. Please tell this kind lady that the undersigned will be very happy to do so if he only could be sure of it, but--when buying a quantity of grain on a market often hundreds of miles away from its original locality of production one often receives from the merchant a most unsatisfactory answer in regard to its various properties. If one asks whether it is a summer wheat, they say yes, and when suggesting it probably may be a winter one, one also gets yes as an answer, so one feels like walking back and forth. Of course, we don't do that, but--we cannot put in our notes what the grains in question are.

Letter of June 10, 1910, announcing the receipt of a package of seeds and samples from Alaska.

Letter of June 10, 1910, about the non-receipt of a parcel containing 10 photographic plates. I suppose that in case they haven't reached your side, they have been apprehended by somebody and I suggest you make an official report of it by writing to the Department for post affairs in St. Petersburg and have your letter registered. I enclose herewith the slip

1095.

obtained when sending the package off. It would be a great pity if these notes should be unfortunately lost. Those missing numbers were in that package and I didn't recall them.

Letter of June 11, 1910, in which there are many notions. About the soy bean coffee, etc., as I had written you from Samu, I covered the 12 cases of coffee, and the 12 apparently shipped from the great difficulties connected with the direct shipping of such things to America and sent instead of 12 small ones, which easily could have gone as samples, a box with 6 large ones to the Consul at Saigon, without any further indication. I also got a letter from Samu and have been in correspondence with our Consul and I just received a letter from him that he sends you this coffee by registered mail and has notified you of the shipment. In your letter from the soy bean coffee country, "Angor" at Phnom, Cambodia, they ask me for a testimonial to be placed in the literature about this coffee. I am writing them, that I am turning their letter over to you as I am not in a position to give my opinion without consultation and I also with enclose that letter, leaving it over to you what to do. I haven't found a good interpreter to translate it correctly for me, but the gist is this: that they want the coffee I requested for that they returned the money, but sent the money to the American Consul, that they are very pleased with my remarks about the good

quality of their products and that they would like to get a testimonial from me to be printed in their literature about this new product.

I am also very glad to hear that of all the regions in the United States Ore. on and parts of Ashing on are the only places where hazelnuts and filberts have been successfully grown. Rather strange! There must be regions in the Southeast like in North Carolina, for instance, where they also ought to succeed.

About Mr. Wilson, well, I got private information that he is on his way to China again and as in his former trip, for the Arnold Arboretum.

And about the Russian correspondents in Nikita, well, Mr. Melaida is, like apparently all Russians, a very poor correspondent. Upon my cards and registered letter I haven't even had a sign of an answer. I have written many Russians these last months, but--answers are not forthcoming.

Letter of June 21, 1910, about the prosaic potato-onion. Well, although I see that Mr. Tracy doesn't think much of them, it seems that the people in the Caucasus hold them in great esteem and it is good that Mr. Sisset will have them tested in the Northern and Western States; Washington after all is a poor place for a vegetable testing station; its climate is too local and not a good one even at that.

1097.

Letter of June 25, 1910, with enclosure of Fr. A.

Zappone's letter of June 17, 1910. You say "you are taking the necessary steps to cover my financial requirements during the coming fiscal year." Well, I will wait then with refunding money until I know the exact amount and until I hear more from you.

I am also in receipt of a P.C. of yours dated June 16, 1910 about the little camera not yet being received.

Well, in case this should have like the photographic plates you will have 80 roubles refunded. I herewith also enclose the slip I received and suggest that you retain it until at the end of this month and in case the camera hasn't turned up yet by that time, to take proper strict official measures with the postal authorities.

I also found here in Tashkent upon my arrival a cablegram from Secretary Wilson and forwarded to me from Mr. Alex. Heimgartner, American Consul in Batoum, reading: "WASHINGTON. THREE HUNDRED FIFTY THOUSAND. PAID. WILSON." I suppose this valuable slip of paper will reach me in due time.

I am also in receipt of letters of Messrs. Dorsett, Bisset and Mason, which I have answered already.

With best of greetings, also to those in our office,

I am

Yours respectfully,

FRANK L. MYER.

Tashkent, Turkestan,

August 20, 1910.

Dear Mr. Fairchild:

I have postponed writing to you day after day in the hope I could tell you something less negative than matters are with me these last days. It seems, however, that luck is against me as regards being able to find a suitable interpreter or a somewhat capable assistant. I have tried several times now to obtain a good man, but everytime something came between and the bird escaped without my getting hold of it. As I wrote you, I know some German settlers near Iery and the three sons of one family are all hunters and can rough it and love it, too. Well, some weeks ago I wrote them, two times even, enclosing 20 roubles for travelling expenses and several days ago I got a card from them that they are so busy with their field labors that they cannot come in this time of the year. It took that card 4 days to cover that short distance from Iery to Tashkent, thanks to the fastness of the Russian internal mail service and the money had not even then reached these people and, of course, I haven't got it back either.

Another chap working at the Experimental Station near Tashkent, got an offer of a good permanent position in Astrachan and although very sorry he couldn't accompany me, he felt that a permanent situation was worth more than a temporary roving one like would have been the case with me.

Well, he was somewhat young yet anyway for my work, for in dealing with the natives it is better to have a somewhat experienced man, otherwise one gets continually cheated and annoyed.

Then there is a German nurseryman here, Kronberg by name, who had an assistant gardener who went on leave to Riga a month ago. He was expected back 10 days ago, but up to the present his employer didn't even get a card from him. According to Mr. Kronberg, this man loves collecting work and he would have allowed him to go with me for several months. Then last week I had a German fellow out on trail for one day. He can walk all right, but -- dense as a piece of rhinoceros leather! Such a man is of absolutely no value in our work and is most times even an encumbrance.

The latest attempt is to get a Bart who is said to be well educated; unfortunately the man is somewhere in hiding for some reason or another and his exact whereabouts seem to be known to only one or two. I at least have not been able to see anything of him, though he may appear any moment in my hotel.

There are some minor people I have talked about going in the mountains, but one would only go when being assured of always having a horse and another drinks too heavily and such worthies I rather leave alone; I have had already my experiences with them. Amnesten is one of the outposts of the great

Russian Empire and intelligent, energetic people do not seem to favor this part of their country; some stay here for a while and then move away again. A great part of the ordinary people are ex-soldiers who stay here on account of not having any position in their original homes. The illiteracy, very great in Russia in general, is something remarkable here. I doubt if one out of ten can read or write decently; we even found a postal clerk who couldn't write without many bad mistakes and this fellow sits as a public writer in the post office in Kashant!

Well, all this delay is, as you surely feel with me, of very great annoyance to me and seems really depressing. There are moments when the loneliness of this exploration work becomes too great and I like to fly off to regions where I can find more intellectual and social surroundings. And I have such a long journey yet ahead of me. Great Scott, before I appear somewhere in Eastern China, I will have gone through many a lonesome day. That is one of the troubles connected with exploration in out-of-the-way places; viz., this loneliness and this great waste of valuable time and energy. Of course, it could be worse yet. Polar expeditions are still way ahead of our work in waste of all sorts of things.

Well, in former letters I have only given fragmentary information in regard to my trip in the mountains south-east of Samarkand and herewith I will relate our adventures somewhat more in detail.

As I wrote you from Samarkand on July 4th, 1910, I had engaged a guide and had an interpreter already for a few days. We had seen the police about our trip and the Chief had said everything was O.K., but in Tashkent we would have to get a paper from the police there.

On Tuesday, July 5, we had negotiations with various horsemen and cart people and as we were assured that in Tashkent we would be able to get cheaper and better horses, we went by a large cart to that last named city, on the next day, where we arrived after a hard ride at 10 P.M. that same day, July 6.

On Thursday, July 7, we inspected the grain market and seed stores where I bought some samples of various things and in the afternoon we had conferences with the police and with horsemen. I got a paper from the acting chief of police and on Friday, July 8, we left Tashkent. We travelled first through a dry, elevated plain, where scanty growth of wheat, barley, linseed and rape was to be seen, while hordes of thousands of locusts were devouring whatsoever they could find. In the afternoon we went through a few rolling hills and when mountain climbing had begun. On a few places we saw some beautiful Thermopsis and yellow larkspurs, but in general the mountains were devoid of vegetation, save some Astragalus and a Capparis spinosa and some Antennaria. At 9 P.M. we stopped at

last in a town called Stood, about 5000 ft. above sea level. We slept on the porch of the Mohammedan temple and got but little supper that night, it being too late to find anything.

On Saturday, July 9, I went around for several hours in the mountains, collecting seeds and herbarium material and at noon we left with our little caravan of 6 horses and six men; (interpreter, guide, 3 horsemen and myself.) We passed through a wild mountain valley where a roaring torrent was still eating out its bed deeper and deeper; after having scaled a dangerous, dry mountain, we arrived at sunset at a beautiful cold lake at 10,000 ft. altitude, this lake is called Kalikullan and is fed from the eternal snows on the mountains around. The water was so cold that one couldn't readily bathe in it and as for drinking, one could only take a mouthful at the time. The soil in these high regions is very sterile and the growing season but very short, for the snow melts away in early May and returns again at the beginning of September. Still one finds there masses of junipers (Juniperus foetidissima?) Barberries, bush honeysuckles (Lonicera sp.), yellow roses (Rosa xanthina?), a mountain ash (Sorbus thianshanica?) besides various herbaceous plants like Eremurus sp. Gentiana verna?), Leonurus? several compositae, etc. We were lucky enough to find an encampment at the lake of a local Art administrator and slept that night in a tent made of carpets, but still it

was cold, after coming in two days from the hot plains.

On Sunday, July 10, we left our lovely, silent sheet of water and climbed over one high and difficult mountain, where the descent was at times even dangerous and horses and men all being tired, we camped at 4 P.M. on a grassy, level place, near a stream and had a great time in getting enough to eat, for there are very few people in this high elevated region of Central Asia and food is scarce and at times not even obtainable. We got, however, sour milk and pea-flour bread and with some conserved sausages, we had still with us, we made a meal of it. The interpreter, however, could not stand the rarified mountain air and had heavy nose-bleedings twice a day and felt quite wretched. The guide who was addicted to strong drink, could not get anything, of course, and had become very sullen, so you may imagine that I was not in a very sociable company.

Well, on Monday, July 11, we passed through wild, rocky scenery, going along precipices where the horses had to be led by two men, one at the head and one at the tail, so as to prevent accidents. In the afternoon about 3 o'clock, while collecting wild cherries, (Nos. 1345a) on the mountain slopes, we came all of a sudden upon a caravan, consisting of 20 people and still more horses. It proved to be the civil-administrator of the district, accompanied by the chief of police of Fendshikent, an interpreter, local chiefs of villages,

guards, scouts, etc. Well, our meeting was somewhat remarkable as few white men ever travel in these regions. The first we were asked for were, of course, our passports. The administrator (a Russian police officer of high rank) said that my papers were not as they ought to be, as they were not definite enough, but I told him I had received them so from the acting chief of Police in Fendshikent. Well, he let us go on. Half an hour later, however, a messenger came to us informing we had to return as the administrator did not feel he could let us go on any further. Well, I sent my interpreter back to this administrator and gave him instructions (this interpreter) to inform him that we would go on anyway as I had permission from St. Petersburg and in case he could not let me go any farther I would report all matters through my Embassy. Well, the interpreter came back again after a long time and said that in case I would go on farther independently, the administrator would have us arrested in the next village and sent back to Samarkand under guard, so it would be better to return voluntarily and have another talk with this suspicious administrator. Well, we came late in the evening in the same village where he was stopping and had a conference. The gist of the talk was this. The Chief of Police in Samarkand had had no right to tell me I could go on to Fendshikent, as this city didn't belong to his district. The acting Chief of Police in Fendshikent had made a failure of the document that he gave me,

having forgotten surely to mention the exact date and number under which my profession from St. Petersburg and he (the Civil-administrator, being held responsible for the district I was travelling in, could under these circumstances not allow me to go on any further as I could be considered as then a mere socialist. Of course, such a less sentence always carries much weight with the lower feelings of lots of military and semi-military people.) Well, I gave him my opinions about treatment of the people here and told him I would complain of this. He said he would allow me to stay there in this village until a messenger had arrived from Leningrad as he would investigate this affair; if things were found to be O.K. I could proceed further on, if not, I would have to return under guard. I had a short conference with my men and then told this administrator that as it might take a messenger 10 days from Leningrad from 5 to 10 or even 15 days before I could have been cleared of his suspicions and as my personal travel cost me from 15 to 20 rubles per day, I had to decline his offer, but wanted to return by another road to Leningrad and investigate this matter myself and find out who was responsible for this mishap. Well, he was kind enough to allow this and as I realised, in I could not escape, I didn't even try to go with me. The old feelings were up and I was very suspicious authorities for my family's sake. My interpreter even said that he could not witness with me, but of course, I absolutely refused anything at the port.

old apricot trees in the forest at a local distance, in the
 prosperous town of Armo, situated in the rich valley of the
 Bureghen.

On Wednesday, July 12, we left ⁰Armo for the
 whole day and passed several villages, where orchards of
 apricots, mulberries and walnuts were to be seen. Wild vegeta-
 tion, however, was almost absent. Naturally a very different
 the local population of the low mountains and the high hills were
 formerly grown upon the mountain slopes and in the forest and
 today everything is scorched and barren.

On Thursday, July 13, we left the town of Armo,
 where we had stopped for the night and passed through a
 region where almost no level spot was found at all: everywhere
 mountains and precipices, all rock and cliffs. As a result
 no villages were found and no distances were too long to
 carry away only vegetation, we found lots of interesting
 plants: Pistacia, almonds in 3 species, Prunus divaricata,
 Maples, Junipers, Colutea, etc. In the morning I sent
 I sent off a few weeks ago, you will find many labels bearing
 the date of July 12, 1910. As I had to do all the collecting
 myself, my men not being intelligent enough for it, I was
 rather tired that day and had to sleep again on the
 porch of a Bonanadan house, notwithstanding a strong wind
 blew all night through the tall walnut trees and made the

dream of storms at sea and fights in forests.

Friday, July 15, saw us leave Tunduk and late in the afternoon we came back again in Tunduk. Here our early returning caused lots of surprise, for we had said we would stay out at least one month. And now we went to the police again and found out my name had been booked, but that the acting chief of P. was at fault. Then the horseman, whom I had paid 100 roubles in advance besides having been loaned money on the road couldn't return the money and we had to ask the assistance of the police and a judge to get most of it back. Still over 12 roubles I had to lose by it, besides finding it an extremely unpleasant labor which lasted all through Friday evening and Saturday, July 16. The guide whom I had given some money to got dead drunk and made troubles worse. Yes, this whole trip was tragic-comical! It is good that I am sufficiently hardened off to stand a wee bit of trouble, otherwise such matters are liable to make one lose temper and sense.

On Sunday, July 17, we left Tunduk again by cart and after a long day's ride we arrived in Samarland at 9 P.M.

On Tuesday, next I went to the Governor of Samarland and complained verbally about this treatment I had experienced at the hands of his subordinates. Well, he was a very kind man, had all things found out straight away and in less than

an hour I had a paper in my possession giving me full rights to travel in the same district I had been chased out. The very administrator who had been so suspicious, was smiles all over and pointed out places on the map where many plants were found and offered to collect material even. And there the thing rests. The main culprit is the acting Chief of Police of Tashkent who forgot his dates and numbers, but the second one is the Chief of Police of Samarkand, who told me to go on, without seeing the Governor first, although it would have been better to do so. I told the Governor it was no honor for Russia, that a scientific expedition of a foreign nation came to naught through incapacity of Russian officials who certainly ought to know their business as regards routes and papers. He looked rather serious when hearing this and I suppose the matter may still have a tail for the officials concerned.

When in Samarkand, my interpreter in the meantime found out that certain things had been taken from his dwelling while absent and he made this as an excuse for not willing to go any longer with me, although I knew that it was the hardships with me and the want of the "flash pots of Egypt" that made him stay back. He promised, however, to accompany me to Tashkent and find me another interpreter, but after having had private troubles at home, he also didn't want to do that and left me alone. Now I could have gone to the police and forced

him to stay with me as I had a witness that I had engaged him for at least one month, but I had in mind an old Dutch saying: "mit onwillige honden is 't slecht hazen vangen".

"It is a bad job catching hares with unwilling dogs." And in my work especially, if people don't put a little sympathy into it, one gets almost nothing accomplished at all.

Well, on Wednesday, July 20, the interpreter left me and I labelled and packed in collected seeds and plants for several days there in Samarkand and not until a week later did I find another suitable fellow, viz., on July 21 and for fear that he too might catch wind of mountain climbing difficulties I took him off the same night to Tashkent. Here I found that seeds which I expected Mr. Palitsky from Chertchui to have sent to a party here hadn't arrived yet and that few other new seeds were to be found here and as such I shipped the 2 cases off in which mostly material is found from my stay in and near Samarkand.

On Wednesday evening, August 3, the 2 cases were ready to go but the express office was closed and the next day the interpreter got intoxicated and never showed up for the whole day, but on Friday, August 5, the cases went in the morning and the interpreter at night. The man had to be home in Samarkand anyway for a few days and I found him to be so utterly uncultured and even illiterate, that I didn't want him back again. As an official, representing a foreign govern-

1111.

next, one cannot afford to be tied up with such sort of people. If distances were not so tremendous here in Russia I would make a trip to Samara or St. Petersburg and find me an intelligent man again, but--on the other hand the shortness of time I could employ such a man does not warrant all the outlays.

Well, as I wrote you, I sent money and instructions to my old interpreter, Chou Kai Ling, in Tashgar and I suppose he is already on the road to me, in a week perhaps he may be here and then I will leave for China. Maybe it will be easier there than it is here.

Well, Mr. Birchall, this is an old-fashioned letter again; I hope you can wade through it.

With best of regards, also to all in our office, I remain

Yours respectfully,

FRANK B. MERR.

1112.

Tashkent, Turkestan,

August 29, 1910.

Miss Grace L. Craker,

Executive Assistant to Dr. Fairchild,

U. S. Department of Agriculture,

Washington, D. C.

Dear Miss Craker:

Your kind messages of July 1, July 5 and on July 26 (2 letters) reached me here O.K. with their respective enclosures. Firstly let me cordially congratulate you with your promotion and your rank, although I must confess your official address is rather lengthy.

In your letter of July 5, 1910, I notice how some things arrived in good condition, how other things were dead! Yes, your remarks about hot conditions of both schemes of despatch and of receipt having contributed apparently to the health of the objects seem true, although unexplainable.

Your fourth of July was so and sane, eh, well, good for you and the American public at large. Why should we blow you, healthy people to pieces simply to show we are celebrating.

In letter of July 26 I, 1910, I see how various letters of mine have been received. And Dr. Galloway already in Japan! Travel goes quick nowadays, is sn't it? And one suitcase full of exploration necessities was that 17 to 18 ft for 10 years. Dear me, (an English expression, by the way). Dr. Galloway will soon find out it isn't so tough. And

1113.

he got his salary of \$1000.00 already and will pay, for
his clock, Chinese ink to write addresses with, etc.?
He will soon find out what it means to be an explorer out
in the field!

And poor Miss Hurlie! I never knew her as well
as that. Well, she was from southern stock and lived in a
bad climate. No wonder she died so young. She was religious,
however, wasn't she, so maybe she is better off now.

Your second letter of July 26, 1910, in which returned
check was enclosed tells me how you paid the premium on my
bond, amounting to six dollars. My special thanks to you for
this act of kindness and herewith please find enclosed my check
for that amount (\$6.00)

Well, what else shall I tell you. I am still
without an assistant or interpreter, although I expect my
Chinese interpreter to be here at almost any moment. The
heat is beginning to abate here, but still it is hot at times.

Well, Miss Greiner, accept with all its office,
the best of greetings from

Yours sincerely,

WILLIAM H. HARRIS.

Tashkent, Turkestan,

August 31, 1910.

Dear Dr. Fairchild:

Herewith I am sending you in 2 separate envelopes as registered letters one package of photos, numbered 501 to 611 inclusive, (61 pieces all told) and one package of films numbered 501-611 inclusive with film 501 missing or rather 502, 2 different pictures made off (No. 501 and 502). There are some fine pictures among this lot, but a few are also quite poor, especially some that I had developed and printed here in Tashkent, where the photographer ruined several of my films by not using the right sort of a developer. In general there are not so many photos as I wished to have made, but as I am restricted by special order only to items of botanical interest, I don't want to run the risks of getting into trouble by taking other pictures, the more as I am quite alone nowadays and even when not alone, had helpers who were not competent to deal diplomatically with the authorities here.

I have a bit of good news to mention. viz., I got a telegram today from my old interpreter in Tashkent, now called Ting, that he has set off to meet me here in Tashkent and will arrive within a week. I also got a letter of a Swedish missionary in Kashgar, Rev. John Jonquist, who is assisting Mr. Ting and he will see to it that his papers are in good shape so that he may pass the difficult Russian frontier. I too got my papers already from the Governor General here and

as soon as the rain turns up we will be ready to depart.

Then the Consul in Batoum has been sending me these last days a bunch of mail and there are several letters among it from you and I will herewith answer them.

Letter of July 2, 1910, about photos. Yes, I am very glad to have Mr. Crandall's suggestions in regard to improvement of the photos I take. I have been overexposing, I know, but the light here is so intense, that one does it even with a very short exposure. Then, I have nobody to tell me much about peculiarities of Turkestan light and its effects. The photographers here in Turkestan number few and are very little experienced outside of portrait taking. I saw some landscapes taken by the best photographer here in Ashkent, that were failures from a specialists' point of view. A perfect explorer of any kind should have had a thorough photographic training! But he should know so many other things besides, that I must confess there would be only a few spots on this whole globe of ours who would be considered absolutely fit to fill the post. This in earnest!

Letter of July 5, 1910, re Driven alfalfa. Yes, I am writing Mr. Wees of Afflis to ship, if possible, 100 lbs. of it for Prof. Piper's use to the Consul in Batoum who will further take care of it.

1116.

Letter of July 9, 1910, informing me 25 little blotter books have been sent me to collect herbarium specimens in. I also got a letter from Mr. J. P. Moore, dated July 31, 1910, that a crate containing these books, and weighing 20 lbs. had been sent off from New York per S.S. Monig Albert. Now as these books weigh only 20 lbs., couldn't our shipping force have made two parcels of them and shipped by post. It would have gone quicker and easier for me here and probably less expensive. I will let you know as soon as I hear from the Consul in Batoum about the arrival of that crate.

Letter of July 13, 1910, with enclosure Mr. Zappone's letter of June 29th, 1910, and notice of settlement from the auditor. I see my accounts have been settled up to March 31, 1910, apparently without a hitch, thank heavens!

Letter of July 14, 1910, telling me that the small camera I sent from Tbilisi arrived in good condition. O. T. has the package of photographic plates from Tiflis also turned up already?

Letter of July 20, 1910, with enclosure of a letter of Mr. A. Zappone of July 18, 1910, giving the information that warrant No. 141 for 5000.00 has been issued. Up to the present this piece of paper hasn't turned up yet. I hope it will have been sent by registered mail!

Is it necessary that I acknowledge Mr. Zappone's letters to him directly or indirectly?

Then I received the following bulletins of Foreign Plant Introduction, Nos. 31, 32, 33, 34, 35, 36, 37, 38, 39 and 40. They are an interesting lot and give me a pretty good idea of the activities of our office in this line of work.

No. 26927, Medicago falcata, interest me very much as this is the first time I see a notice that it is grown as a regularly cultivated plant, a thing Professor Hansen was not able to tell us anything about.

No. 26985, Sagittaria sp., which you procured from the Port Arthur Restaurant is very much used in Central China. One gets it invariably fished up in soups and stews and with fish, always cooked and cut in small pieces. The taste, however, is flat and doesn't appeal much to us white people. The Chinese, however, say the same of our potatoes and when they use them, they prefer them with a sugar-syrup poured over them, like they use their Yams (Dioscorea decaisneana.)

I agree with Mr. J. Robert Moore that some of the varieties of millet, like No. 27556, will afford the farmer who raises them properly prepared on the market as a breakfast food, a good steady income. You tested some yourself, too, at my suggestion, as you probably still remember. I wonder why so often the specific names of my introductions have been omitted. Take for instance, No. 27512. Dioscorea Lotus, This is D. Lotus and nothing else, not D. sp.

That Carica papaya has perhaps a better chance as a hot house commercial fruit strikes me as worth making a solid experiment with in one of our greenhouses in Washington.

Mr. Jose D. Rosendo is remarkably active in sending so many things. By, Chile, has a remarkably rich and useful flora! What a pity its climate is so very temperate. Australia, Tasmania, Madeira, the Canary Islands and the places where Chilean plant immigrants will feel mostly at home, or course in California, too, but still Chilean plants are in general not very easy to handle, many of them do better as cool greenhouse plants in Western Europe, than as outdoor objects in California, as I know from experience.

And Mr. George Borst is going out again, could you perhaps send him a surplus copy of the February, 1910, number of the National Geographic Magazine, where his experiences have been related?

Now, I am that the botanical names are being changed and changed over again. I do not all Umbilicus asculentus has become Amelanchier etc. and some names I do not recognize at all any more.

In No. 27022 the sentence "Remarks as a specimen" etc., should be changed to "Recommendations, etc."

No. 28022, Thunus humilis, surely is not T. humilis. I cannot say exactly what it is, because my own number is not

mentioned, but I saw Cereus portulacastrum at that time. C.
portulacastrum is a small cactus, confined to North America, only, but
 so far as I know.

And Miss Piker calling attention to the action of this has
 a delicate effect upon our nerves! It is as delicate as the hair
 and its introduction into criticism!! Well, science also has
 that reputation for delicate delicate and also other qualities,
 affecting the nervous system. But it is not limited to that
 and it is very likely to possess certain beneficial medicinal
 properties.

I also notice that I have been nearly two years ago
 before me in of late. That is quite a long time without it.
 And in all the neighborhood of a tropical region to the care of
 all such things.

Well, that is about all I had to say. I close with
 kindest regards, also to all in the office,

Respectfully yours,

THOMAS J. PIERCE.

Washington, D.C.,

September 18, 1910,

Dear Mr. Marshall:

As you see, I am still in the same old, but I've only one or two days left now. I will be glad to leave and go on or do something else. By the way, I'm interested to hear if you've got a few lines in your hand, for the last week. I had been if I could have been able to find a native guide who could have gone along with us to the canyon, but we had to leave it, the Chinese here and the Americans are nearly all of a different opinion that the real natives (the Sui) talk with quite different accents from what they do in the city. We are in negotiation at present with several men who are to go. One who I like best is a German who has been here for 14 years and knows the Chinese and the Sui and knows the way to the canyon, but, which is worth as much as the language. I am beginning to be a little bit of a limited way, but to find the police with their suspicious inquiries and have to wait to wait them on every point and I think this is a great deal of trouble. We are in negotiations with various police and other agencies, paid already 5.45 pounds for necessary papers for passports and 1.50 pounds for the papers through the customs and through the first 2 documents are signed already and other 2 necessary

are not at all good. Within a couple of days we hope to get them, perhaps by dropping a few more coins in the hands of willing receivers. It is a hard work!!

If Chikara may only stay 7 days here on his present passport, I suppose tomorrow he will have to bribe the police or go through lots of formalities to obtain a prolongation of his permit. Well, we will see how things go these next days. I am getting thoroughly tired of all this thing here and have not decided as yet what I am going to do in case more troubles come up. In addition we have the fact that Cholera is at present strong as, although apparently not in a very virulent form, the Ill-ria is rather strong at present, together with an epidemic cold in the head and most of us suffer more or less from it and the very greater part of the white people here are not quite well.

Well, things will pass again, I will let you know soon how matters are running.

Respectfully yours,

WILLIAM L. BAKER.

P.S. The warrant for \$2000 hasn't come as yet. I have written the Consul in Saigon about it. Please see whether it was sent registered or not. It may be lost. I won't wait for it here in Yankout, but as soon as I know that I can go on to Hanoi, I will write the Consul to forward my mail there.

Andkhan, Turkestan, Russia,

October 3, 1910.

Dear Mr. Shirehill:

Herewith I am enclosing my accounts for the last quarter, July, August and September, 1910. Would you kindly turn them over to those who are settling my financial matters?

I also have enclosed my itinerary report for the past three months in which you can see that travelling in this police-ridden land is far from agreeable to a liberty-loving man.

Tomorrow I will write you a letter about what we saw these last days.

I remain with best wishes, also to all in the office,

Yours respectfully,

FRANK F. MEYER.

ITINERARY REPORT OF FRANK F. MEYER

Covering the Period of July 1 to Sept. 30, 1910.

July

- 1 In Samarkand. New interpreter enters service. Conferences about various things. Correspondence attended to.
- 2 In Samarkand. Negotiations with a Russian ex-forest and game keeper to accompany me as guide in the mountains. Mail sent off.

July

- 3 Visit with the interpreter to grain market in Old Samarkand, buying grains. Notes made.
- 4 With interpreter to the Bank, Police, post office, etc. Correspondence attended to.
- 5 Negotiation with cart men and horse dealers. Supplies bought, baggage packed and stored.
- 6 Left Samarkand by cart for Pendshikent, whole day on road. (66 verst).
- 7 In Pendshikent. Buying grains on market. Negotiations with horse men and police.
- 8 Left Pendshikent with a caravan of 6 horses and 6 men, me included. Left at 8 A.M. and arrived at 9 P.M. in a mountain village called Stood.
- 9 Collecting herbarium material and seeds in the mountains near Stood. Left at noon again and arrived at a cold mountain lake at sunset. Collected plants enroute.
- 10 Left the lake at 7 A.M. Climbed a steep, barren mountain and camped at sundown along a mountain stream. Collected plants and seeds enroute.
- 11 Left camp at 6 A.M. passed wild and rocky scenery. Collected herbarium material and seeds enroute. Came across police authorities and were sent back. Stayed for the night in Peki.
- 12 Left at 7 A.M. Passed along an exceedingly bad mountain road and arrived in Orono at 5 P.M. Had conferences with police.

July

- 13 Left at 7 A.M. went through sterile mountain regions. No plants found. Stayed for the night at Buzgar.
- 14 Left at 7 A.M. Passed through a section very rich in drought-resistant plants, collected many seeds and much herbarium material. Stayed for the night in Wishist.
- 15 Left at 8 A.M. and arrived in Pendshikent at 4 P.M. Many difficulties with the horse men about getting money back.
- 16 In Pendshikent. Troubles with horsemen, police, guide, etc. Dried herbarium material.
- 17 Left Pendshikent for Samarkand by cart. From 6 A.M. to 9 P.M. on the road. Very dusty.
- 18 Conferences with interpreter and guide in Samarkand. Got baggage out of storage, sent telegram, unpacked things and dried seeds and herbarium material.
- 19 Went to see the Governor and Police in Samarkand. Labelled collected material.
- 20 In Samarkand. Difficulties with interpreter. Labeling collected material.
- 21 Labelling and packing herbarium material in Samarkand.
- 22 Labelling and packing herbarium material in Samarkand.
- 23 Labelling and packing herbarium material in Samarkand.
- 24 In Samarkand. Writing notes.
- 25 In Samarkand. Writing notes.
- 26 In Samarkand. Conferences with a new interpreter.

July

- 27 In Samarkand. Writing notes.
- 28 In Samarkand. Engaged new interpreter, packed in baggage and left at night by train for Tashkent.
- 29 Went with interpreter to Police, Bank, Post Office, etc.
- 30 Visit to Department of Agriculture in Tashkent in forenoon; went to Agricultural Experiment Station in afternoon. Had talks with various specialists.
- 31 Attended to correspondence.

August

- 1 Visit to Department of Agriculture in Tashkent. Saw Mr. Toliatowsky. Went to see a German nurseryman in Tashkent. Inquired for new interpreter.
- 2 Visit to Governor-General, to Engineer Schapsky, to shipping offices. Received baggage.
- 3 Visit to Governor-General again for passports. Packed in seeds and herbarium material for shipment.
- 4 Interpreter intoxicated. Work at standstill.
- 5 Deliverance of 2 boxes with seeds and herbarium material to shipping office in Tashkent. Interpreter sent away.
- 6 Unwell. Heat is very great.
- 7 Unwell. Heat is very great.
- 8 Unwell. Correspondence attended to.
- 9 Unwell. Correspondence attended to.
- 10 Unwell. Correspondence attended to.

August

- 11 Unwell. Correspondence attended to.
- 12 Visit to native city, inspection of a fruit garden.
- 13 Visits to various people to find a new interpreter.
- 15 Studied maps and notes.
- 16 Studied maps and notes.
- 17 Visit to Kairat newspaper in regard to an assistant.
- 18 Studying botanical works of Turkestan.
- 19 Studying botanical works of Turkestan.
- 20 Writing a report, whole day.
- 22 Went botanizing in vicinity of Tashkent.
- 23 Reading notes on flora of Turkestan.
- 24 Reading notes on flora of Turkestan.
- 25 Reading notes on flora of Turkestan.
- 26 Reading notes on flora of Turkestan.
- 27 Photos having developed and printed.
- 29 Attended to Correspondence
- 30 Attended to correspondence.
- 31 Attended to correspondence. Photos sent off.

September

- 1 Attended to correspondence (in Tashkent).
- 2 Attended to correspondence (in Tashkent).
- 3 Attended to correspondence (in Tashkent).
- 5 Chinese interpreter arrived. Went with him.
- 6 Hunted for an assistant.
- 7 Reading botanical works.

September

- 8 Went to see a new assistant.
- 9 Talks with various prospective assistants.
- 10 Correspondence attended to.
- 12 Reading botanical works.
- 13 Reading botanical works.
- 14 Botanising in vicinity of Tashkent.
- 15 Went to police about passport matters.
- 16 Reading botanical works and making notes.
- 17 Bought supplies in Tashkent. Talks with court and prospective assistants.
- 19 Supplies bought in Tashkent. Engaged new interpreter. Negotiations with various courtiers. Packed in all baggage.
- 20 Left Tashkent by wagon. Stayed for the night in Putayev. Inspected fruit gardens and orchards.
- 21 By wagon from Putayev to Chirchik. Passed most of the day through the desert.
- 22 By wagon from Chirchik to Miodjend. Passed pretty near the whole day through the desert.
- 23 In Miodjend. Inspection of desert. Visits to police and seed stores. Talks with wagon drivers. Photographed.
- 24 Left Miodjend by 2 native carts. Stayed in Kostak for the night. Passed many fruit gardens during the day.
- 25 Left at 8 A.M. Passed nearly the whole day through the desert. Stayed in Yuldar for the night.

September

- 26 Left at 2 A.M. Passed through very hot sandy deserts. Saw many Oleaster trees along watercourses. Arrived at Samarra in Korana. All things covered with dust and we looked all gray, too. Hotels wouldn't let us come in until we gave our passports.
- 27 Visits to native city and to food stores in Korana.
- 28 Market day today. Visits to fruit and grain market, samples of fruits and seeds bought. Negotiations with cart men.
- 29 Packing in of baggage and left by train for Hargelan. Visit to Forester Ottendorf in Hargelan.
- 30 Visits to Governor, Police, and Dr. Ottendorf in Hargelan. Difficulties with passports.

THE END.

Andishan, Turkestan,

October 4, 1910.

Dear Mr. Fairchild:

As you see, I am now at the terminus of the Central Asian R. R. and will write you from here a short report of what passed over our heads these last weeks. I wrote you several times from Tashkent about all the doings I experienced there, and so I need not repeat you how unpleasant my stay was there. I also informed you that I was in negotiations with a new interpreter, and the difficulties we experienced in getting the necessary papers. Well, this interpreter then had told me that he would have his permits at the very last on Friday, September 23. As it became evening, however, he hadn't got them yet and then I told him I would go without him on Monday morning. The next day, however, he saw the police again and through the assistance of a friend and some loose cash he got his papers. Then we changed our plans and instead of going alone on Monday, with the Chinese interpreter and taking the train, we hired a wagon and went on Tuesday, October 20, 1910. The reasons for going by wagon were many. First, I have an awful amount of baggage, close upon 1200 lbs., which is very inconvenient to ship by baggage, the more as some of it is not accepted by the railroad unless crated, and that is too much work; 2ndly, my interpreter is a new man, whom I know only slightly and there is no better chance of obtaining a

fellow's characteristics than by subjecting him to a roughing trip; for the Chinese interpreter it was also not bad to learn how to travel in Russian Turkestan. Then, in addition, came the fact that I could study the country much better by cart than from a train window, and last not least, my health hasn't been of the best in Ashkent the last times, and such a cart trip would make me all right again.

Well, all things went as well as they could. In three days' time we covered the distance from Tashkent to Khodjent, passed through rice fields, fruit gardens, deserts, etc. It is exceedingly difficult, however, to inspect fruit or vegetable gardens close by, as all the plantations are surrounded with high mud walls and strangers are not admitted. Then we also had difficulties in obtaining sufficient food in daytime, as the great Mohammedan feast was in full start. This incomprehensible religious feast says that no Musselman shall partake of food and drink as long as the sun is in the skies. As soon, however, as that body sinks down, then eating and drinking commences and merriment is made until the break of day. The main meal is eaten then at between 11 P.M. and 1 A.M. What use this unhealthy rule has is as yet a puzzle to me, but this is certain, it is most inconvenient to all travelers and even to the believers themselves. We often couldn't get a cup of tea even in daytime, and ready food was quite out of the question.

Well, on Friday, September 23, we stayed in Ghodjent and wanted to find some famous peach varieties. We were, however, unable to find anybody willing or capable to show us around, and it was a Mohammedan holiday besides, so we had to give it up. Our wagon driver had become dissatisfied with the expensiveness of feed for his horses and wanted an extraordinary price before willing to go any further, although we had engaged him for at least as far as Kokand. Well, we wouldn't give in, and engaged two local two-wheeled carts and left the next morning, September 24. On Monday, September 26, we larded at sunset in Kokand and had our first clean-up in seven days. The last three days we had passed most of the time through sandy, stony and alkaline deserts, and going sometimes ankle deep in the dust, so we and the baggage were simply covered with gray and brown coats of desert dust. At the Russian hotels we tried to find accommodation; they were suspicious of us and we had some trouble of getting a roof above our heads. We had to give our passports the very first thing, apparently to satisfy the fact that we were robbers, returning with loot!

In Kokand we stayed two days, inspected bazar, seeds and grain market and looked over the fruits. Kokand is reported to be the finest market in Central Asia, and I really expected to find many new things. There is, however, not as much in our line as one might wish to see. I got, however, some samples of unusual varieties of almonds and a large brown chick pea which

I didn't see before. There were also very fine specimens of cocomorantes to be seen, that is, of fine color and size, but of very sour taste. Of grapes the beautiful rose-white Muscadine table grape was very fine with its long translucent berries, which taste remarkably sweet.

In the immediate neighborhood of Boland one sees field after field covered with cotton interspersed with alfalfa and "Djugare." This last can stand considerable alkali and may be of some value in alkaline regions with long and hot summers. One also notes the masses of Leoster trees that are everywhere around the fields and along watercourses. These El agins trees exhibit a remarkable variation in general habitus, productivity and sizes of fruits. The bigger part of them all seem to be seedlings, and are planted apparently only as shelter material, at least the fruits of many are too astrigent to be edible and even of the larger seeded forms only were seen where they collected some. It is, however, a beautiful tree in the landscape, especially the silver-white forms with the narrow, long leaves.

On Tuesday, September 25, we left Boland by train, after having secured our baggage so that the railroad would accept it. In the afternoon we arrived in Tashkent, a town where the Governor of the Transcaspian Province resides. (The same day we changed our baggage from that of Boland to that of Tashkent and in doing so we lost the baggage, although the railway officials of Tashkent, whom we met there, still retained the baggage. On Friday, September 28, we left

list in hiding cases of sickness and from some of the collected places as it were some of the things we would like. The summer lasts very long here. All the trees are still in full leaves, and some have fallen it is not from cold, but from blowing. I hope you will soon get a cold spell, so that I can send some seeds and settings of various things.

My present interpreter is not a genius, but I will see how we can get along. ~~Unusually~~ certainly is an extremely difficult country to move about; the moment one leaves the railroad questions are being asked, and for every little excursion special permits are necessary. I wouldn't advise anyone to select this land for a holiday trip, and I have to restrain myself not to leave this whole territory as it is to live somewhere in more accessible surroundings.

Well, one or two more days and I will have to start for Chin, from there by pack-horses to Yunnan. Some robbers are reported to be in the route, and they murdered some people here these last two nights, and a botanical collector is generally exempted from these annoyances.

With best wishes and greetings, also to all in our office, I remain

Respectfully yours,

FRANK R. MASON.

Kashgar, Chinese Turkestan.

October 22, 1910.

Dear Mr. Fairchild:

Since a few days I am here in the capital of Chinese Turkestan. I have been busy calling upon the Consuls and various other people. Matters with interpreters and passports are also not settled yet, but we are in hopes that these affairs will also be solved in a satisfactory way. Within a day or two I will write you more about our plans.

With best of regards, also to everyone in the office,
I am

Yours respectfully,

WALF H. LUNN.

Kashgar, Chinese Turkestan,

October 27, 1910.

Dear Mr. Fairchild:

As I said in my letter a few hours ago, I would write you a little more as soon as I was through with some more official correspondence to Consuls and shipping companies.

Well, I have been here now for one week, busy in getting a new Chinese passport, which I received two days ago, thanks to the assistance of the Russian Consular Force; then I have been gathering information regarding the country, its products and the ways of its people from the Swedish

missionaries here, from the English Consul, Mr. George Macartney, and from the Russian Consul, Mr. Romoif. In general, there is not anything highly remarkable to be seen here. The fruits are decidedly poorer here than they are in Russian Turkestan and far fewer in varieties. They have, however, a few local fruits here that are worth inspecting; for instance, a few strange varieties of plums, somewhat between plums and cherries in general looks; then some grapes, which are said to be only locally known; also fine varieties of winter melons, which fruits certainly ought to be looked in America as we have nothing like them. The so-called winter peaches they have here are all cling stones, somewhat watery and not very fine in general. There are, however, excellent pomegranates which come 10 days' distance from here, from near a place called Berghalik. The alfalfa seen here is mostly different from the Russian Turkestan sorts and apparently local. I haven't been able as yet to obtain seeds of authentic varieties. It is quite warm here and the vegetation in general is green yet; the time to take cuttings will come a few weeks hence. Well, the British Consul leaves next Saturday, October 29, for Peking and he wants me to go with him. I think I will accompany him and may be pick up some useful information enroute. From Yarkand we hope to go rather quickly to Khotan and then to Kucha. When returning we expect to make side trips into the mountains and collect all the good things of the country which we hope to ship them from here.

One bad thing is that the post office doesn't accept any grape vine cuttings for transport. I wonder how I will get them out of this land! I have not been able to find any suitable interpreter who can be useful in our particular line of work. The natives are all Mohammedans, rather ignorant and of cheaty, unreliable dispositions. I have my old Chinese interpreter and the Russian German one who speaks sufficiently Turki to get along with and with these two and information from various people we hope to be able to accomplish our aims.

Our trip from Andishan to this city was a successful one for so far as freedom from accidents and serious difficulties was concerned. We went by wagon from Andishan to Osh, there on account of the end of the Muslim fastings days we had to wait a couple of days before being able to get horses, but we left Osh on Sunday, October 9, and went for nearly eleven days through mountains and valleys until we arrived on Wednesday, October 19, in this city. We had some cold weather in the higher mountain regions and spent a few very uncomfortable nights which didn't contribute to the sweetness or temper of our party, but still, in general things went all right. Botanically the country is extremely poor; the mountains or plains are arid or semi-arid and therefore practically devoid of any vegetation. On the Russian side there are many wild grasses yet to be seen, but they were dried out and shrivelled up already; on the Chinese side,

however, there was very little vegetation at all. For a few days we went through absolutely barren regions and where vegetation appeared, it was Artemisia and salt bushes. I never expected this country to be so desolate.

Well, now I will first make this journey to Karia and back which will take at least 2 months and then I hope to go further East. My Chinese interpreter has indications of staying here after we come back; that would be a bad thing and might force me back to Kasia again. The future is decidedly unsettled at present! Well, then back here in January I hope to find some mail from you. I am utterly cut off touch now with the whole world.

I conclude with best of regards to all in our office and remain

Yours respectfully,

FRANK S. MASON.

Amoy, Chinese Post Office,

October 27, 1910.

Dear Mr. Churchill:

After many difficulties I was able at last to ship two parcels with cuttings from here to the American Consul in St. Petersburg, whom I am notifying about it and requesting to forward them at his will at convenience to you. The Russian post office here doesn't accept any parcels straight to a foreign country and so we have to send them by a roundabout way. The Russian customs house people too are very careful about the parcel that goes via the Russian Post and it took three days of negotiation before we got the things off at last. We had to show every little bit under the eyes of the officials so that nothing could be smuggled in! Well, thank Heaven, we got through at last and I hope you will receive the material in good condition. The two parcels contain 11 packages, viz., the numbers 731 (2 packages), 732, 733, 734, 735, 736, 737, 738, 739, and 740. I am enclosing herewith their inventory cards in duplicate.

As all of the material was collected in various wild sections of the country I suppose that they will be kept in good, in some proportion I believe the good nature of the people, otherwise it will be very hard to be collected as such. It is not so much as the St. Petersburg people do

1140.

Ordered, I suppose they will find a good horse too. Professor
Sargent will be about come in for a share of \$5.000,
Crataegus sp.

Well, that is about all relating to this shipment.
In another letter more about my plans. I am

Respectfully yours,

FRANK M. WILSON.

Kashgar, Chinese Turkestan,

October 23, 1910.

Dear Mr. Churchill:

Today I have been shipping to the American Consul
in St. Petersburg, per Russian parcel post 3 packages marked
A, B, and C, and have written the Consul to forward these
packages at his very earliest convenience to the Department.
These three packages contain 30 numbers of seeds, viz., from
1413a inclusive to 1470a, and I am enclosing herewith their
inventory cards in duplicate.

They also contain a few samples, viz., a small bag
of rice, salted sour milk in which the hair section of the
Bureau of Animal Industry was interested; a package of
roasted chickens from Moscow, showing that a rather tasty
simple sweetest can be made from the "Cartezas;" a package
of sun-dried wheat, rice & corn with kernels critically

inserted; a package of a witch-broom-like disease on C. ...
gum. for the pathologists; 4 packages of entomological
 material for the respective specialists.

About the seeds I have a few remarks to make, viz.,
 the almonds (Nos. 1415a - 1418a) are very interesting and I
 wish you could show them to Dr. Taylor and others interested
 in them. As for Nos. 1425a and 1426a (Prunus divaricata and
P. domestica) I would like to see Mr. L. S. Frederick at
 Geneva, New York, obtain a few fruits of each, as he is writing
 a story of the genus Prunus. The two species of Pines, Nos.
 1429a and 1430a might perhaps best be propagated at once. All
 these pines among which there are some very fine sorts, would
 find their best situation down in southern California somewhere,
 also in Arizona and the southern corners of Utah and Colorado.
 A few might be sent to Greenville, Texas. No. 1435a, Pinus
Schoberi is the desert cypress in which Dr. Swingle is interested,
 the berries, however, are, I am sorry to state, not worth their
 salt to us white people. I ate several handfuls of them to test
 them and their rather high alkaline properties leave an unpleasant
 after taste in one's mouth, while one's throat also feels
 the sharpness of the salt. As a condiment, however, the plant
 is certainly worth testing.

The Roses, Nos. 1451a to 1455a inclusive may perhaps
 be best sent to Chico as Dr. van Fleet is much interested in
 wild roses. No. 1460a, a wild Rubus will find a home by

the specialist on those plants.

The ornamental statice, no. 1466a, deserves extra treatment, I think our garden at Chico will be best for it. The 4 Chinese vegetables ought to be tested in the southwestern United States, not at Arlington!

Well, that is about all. I had made my arrangements to leave today, but Mr. McCartney, the British Consul here, informed me that the authorities of Yarkond had asked him to postpone his journey for 2 days as they were absent from the city and couldn't receive us and so we are going Monday morning. Today is Saturday.

Trusting you will receive this aforementioned material in due time and hoping to find some mail from you when I return here 2 months hence, I remain with best of regards, also to all in our office,

Yours respectfully,

FRANK W. LAY R.

Kashgar, Chinese Turkestan,

January 7, 1911.

Dear Mr. Fairchild:

Since a few days I have returned home and found a large pile of mail awaiting me. On account of exposure to cold and inhospitable quarters I do not feel quite well and have been under the blankets these last 3 days. My Chinese interpreter does not want to rough it any longer and has informed me he wants to leave my service. The German who acts as Russian and Turki interpreter wants also to go back to Kashkent and I set up against it. My permit allowing me to travel in Russian Turkestan has become void and I have been in negotiations here with the Russian Consulate about new permits. My intentions are to re-enter Russian Turkestan and gather some of the best things I have spotted out this past summer. To get new suitable men I may have to go to Russia proper. We will see how things go. In these next days I hope to answer your letters in detail. I may say that Chinese Turkestan is much poorer in new and good things than the Caucasus is or Russian Turkestan. It is too dry here and it simply is a dying land. I got several interesting varieties of grains and legumes, however,. Well, later more. I remain

Yours very sincerely,

WILLIAM H. BURR.

Kashgar, Chinese Turkestan,

January 16, 1911.

Dear Mr. Archibald:

Herewith I am sending you my itinerary report covering the period October 1 to December 31, 1910, inclusive dates. I also enclose the duplicate inventory notes belonging to a shipment of cuttings I am writing about in another letter. These notes are numbered 901 - 907.

Trusting that this letter reaches you safely, I am

Respectfully yours,

FRANK F. LEYER.

ITINERARY REPORT

for Frank F. Leyer, Agricultural Explorer

Covering the period October 1, 1910 - December 31, 1910 (Incl.).

October

- 1 Travel in baggage in Tientsin - Kashgar, Russian Turkestan, went to R. S. Station there, had baggage weighed, checked, etc., took tickets for Andishan, sat a few hours in the train, had numerous baggage transferred in Andishan from R. S. Station to hotel and so went the whole day.
- 2 Visit to native city, bazar, fruits and seeds inspected, correspondence attended to.
- 5 Correspondence attended to, accounts made up. (In Andishan).

October

- 4 In Uulishan. Visit in morning to Forest, seeds collected, in afternoon to Experimental Farm, bot on experiments looked over.
- 5 In Uulishan. Mail sent AM. Forester visited, arrangement made with mail-coach establishment to take us to Osh.
- 6- Left Uulishan at 11 A.M. Reached Osh 11 P.M. Carters trunk, horses tired. Chinese interpreter ill (a light attack of cholera.)
- 7 Visit to police registrars in Osh; conferences with various horse dealers to take us to Leher.
- 8 In Osh, conference with police officials about papers necessary for sale for Russian use for Chinese interpreter. Visit to Forester in Osh, seeds inspected. Supplies bought for a two weeks' trip. Contract made with horse dealers.
- 9 Left Osh. 10 horses, 11 day mounts. Stopped for the night in Leher.
- 10 Left Leher at 9 A.M. All day journey, collected seeds and plants. Arrived T. P.M. at Chirchik.
- 11 Collected settings around Chirchik, left about 10 A.M. All day journey. Stopped for the night in Chail-bogen.
- 12 Left Chail-bogen at 7 A.M. All day journey. Collected some seeds. Arrived here at about 6 P.M. Chinese settlement and stayed here.

October

- 13 Left early all day on foot, climbed a high and difficult mountain, 11000 feet altitude, (Lung De Yao). Arrived at 7 P.M. in Hsiao-shan.
- 14 Left 8 A.M. All day on foot through a forest region. Arrived town just in the even, the Russian post at the Chinese frontier.
- 15 Left early, crossed the Chinese frontier, passed through a beautiful valley, collected seeds and cuttings of various plants. All day on foot. Arrived at 6 P.M. in Hsiao-shan, near Chinese frontier town.
- 16 Left at 7 A.M. All day on foot through a forest country. Arrived at 6 P.M. at a small settlement.
- 17 Left at 7 A.M. All day on foot through a forest country. Arrived at 6 P.M. in Hsiao-shan and stayed there for the night.
- 18 Left at 7 A.M. All day on foot, collected seeds, passed Chinese frontier town at Hsiao-shan, all day on foot, arrived at 11 P.M. in Hsiao-shan.
- 19 Left at 8 A.M. Arrived at 11 P.M. in Hsiao-shan, stayed there at 11 P.M. Visited to British Consul, to British Consulate and to Russian Consul.
- 20 In Hsiao-shan, stayed overnight. Visited to Russian Consulate and to British Consul, stayed overnight and went on.
- 21 Called upon Chinese officials, arranging permits to travel to Chinese frontier. Arrived at 11 P.M. in Hsiao-shan, stayed overnight, passed to Russian and about

Unlabeled

Travelling facilities. Goods allowed and listed.

22 Visit of British Consul. Goods allowed and listed.

Arrival of British Consul. Goods allowed and listed.

23 By boat to the Chinese city and back, goods bought and packing material for baggage. Baggage packed in.

24 Conferred with Russian consul about passport.

Visit to the bank, money exchanged, baggage packed in.

Visited the office of the Consul about passport in London.

25 Conferred with Russian Consul and British Consul about passport. Baggage packed. Goods written. Goods sent.

26 Baggage packed, goods sent to the ship. Goods written.

27 Goods sent off; visit to Chinese consular gardens and back to the ship, which inspected the goods. Goods sent.

28 Official mail sent off. Goods packed in.

29 Goods sent off. Goods written, correspondence attended to.

30 Official mail sent off. Goods packed in. Goods sent to the ship and British Consul; goods sent to the ship.

31 Arrived at the ship. Goods packed in. Goods sent to the ship. Goods sent to the ship. Goods sent to the ship.

November

- 1 Left Yagshi at 7:00 A.M. All day snowed, stayed for the night in Yanginissar.
- 2 Left at 7:00 A.M. All day snowed, stayed for the night in Mizil.
- 3 Left at 7:00 A.M. All day snowed, stayed for the night in Gulrabad.
- 4 Left at 7:00 A.M. All day snowed, stayed for the night in Chaglam.
- 5 In Yagshi, called upon the Chinese Registrar of Yagshi, saw Mr. Hognette, a Swedish missionary and a specialist upon the Turki language as spoken in Chinese Turkestan. Inspected seed stores.
- 6 Return visit of Chinese Registrar. Call upon military magistrate and visit to Government Station (in Yagshi).
- 7 Visits to seed stores, samples of grain inspected. Notes made.
- 8 Negotiations with native guides about exploring the mountains. Supplies bought for journey.
- 9 In Yagshi. Difficulties with Chinese interpreter who is not willing to reach it, on account of feebleness. Trying to find a new man.
- 10 Negotiations with horse men about journey in the mountains. Interpreter not willing to go if horseback. Overtures toward with cartage. Carts ordered for Nov. 12.

November

- 11 Calls upon British Consul, District Magistrate and Mr. Maquette, on account of leaving Hariana.
- 12 Return visit of District Magistrate. Left Hariana at 11 A.M. All day enroute. Stayed for the night at Nowalpur.
- 13 Left at 9 A.M. All day enroute. Stayed for the night at Karghalik.
- 14 Left at 7 A.M. All day enroute. Stayed for the night at Chilian.
- 15 Left at 7:30 A.M. All day enroute. Stayed for the night at Gura.
- 16 In Gura. Took photos; visit to Magistrate. Left at 5 A.M. All day enroute, arrived at 2 P.M. in Luchi. Stayed there for the night.
- 17 Left at 9 A.M. All day enroute. Stayed for the night in Samalia.
- 18 Left at 8:30 A.M. All day enroute. Stayed for the night in Pialna.
- 19 Left at 6 A.M. All day enroute. Stayed for the night in Sauri-Muran.
- 20 Left at 7:30 A.M. All day enroute. Stayed for the night in Gutan. Received by the Assistant and Union officials. Went to receive them in return.

November

- 21 Called upon Chinese Magistrate of Khotan, also upon Archakal, conferences about finding a competent guide, of getting cuttings of fruit trees, etc.
- 22 Return visit received from Chinese magistrate; hunting for a man who knows the mountains and their vegetation.
- 23 Visit to a market held near Khotan. Grains bought.
- 24 Bazar inspected in Khotan. Wheat, fruits and various seeds bought.
- 25 Visit to a celebrated fruit garden. Cuttings obtained.
- 26 In Khotan. Seeds bought, arrangements made for horses to take us in the mountains. A guide engaged, supplies bought, baggage packed in, paper factory visited.
- 27 Called on Chinese Magistrate. Received return visit, also of Archakal Indian officials, etc. Horses packed up, left at noon. Arrived late at night in Tusi. Stayed there.
- 28 Left at 9 A.M. All day enroute. Collected tree cuttings. Bought seeds. Stayed for the night in Lashu.
- 29 Left at 9 A.M. All day enroute. Stayed for the night in Taiskya.
- 30 Left at 7:30 A.M. All day enroute. Arrived 9 P.M. in Tuya, dead tired.

December

- 1 Left at 10 A.M. All day enroute. Arrived at 8 P.M. in Iushki. Seeds bought.
- 2 Left at 11 A.M. Arrived in Shanaka at 4 P.M. Stopped there. Visits of Chinese Magistrate and of Turki head man.
- 3 In Shanaka. Collected cuttings of ornamental and of fruit trees, inspected samples of seeds.
- 4 Excursion in vicinity of Shanaka on horseback. Cuttings collected, seeds bought, photos taken. Arranged for fresh horses.
- 5 In Shanaka; cuttings of ornamental trees taken. Left at 11 A.M. All day enroute. Arrived at Sarabon at Sullras and stayed there, a poor Kirghiz settlement.
- 6 Left at 8 A.M. All day enroute. Stayed for the night in Ish-sala.
- 7 Left at 9 A.M. All day enroute. Stayed for the night in Chosan-dugra.
- 8 Left at 8 A.M. All day enroute. Stayed for the night in Burma-Lyeng.
- 9 Left at 7 A.M. All day enroute. Stayed for the night in Aravag.
- 10 In Aravag. Cuttings taken of various fruit trees, seeds bought, gardens inspected. Left at 2 P.M. Arrived in Marghalik at 4 P.M. baggage unpacked, seeds packed in.
- 11 In Marghalik. Visit to fruit gardens, cuttings taken. Notes made and conference with local dignitaries about

December

the products of Marghalik.

- 12 In Marghalik, market day. Seeds bought. Fresh horses engaged.
- 13 Left Marghalik at 9 A.M. All day en route. Stayed for the night in Pucham.
- 14 Left at 9 A.M. All day en route. Crossed a river by ferry. Arrived at 4 P.M. in Yarkand and stayed there.
- 15 Visits to Aksharal and Swedish missionaries, talks about roads in the mountains and products of the Oase of Yarkand. Bazar inspected.
- 16 Call upon the Chinese Magistrate, conference about mountain roads and vegetation in mountains. Calls upon various people who were said to know the mountains.
- 17 Seeds and cuttings packed in and sent off by cart to Kashgar. Excursion in vicinity of Yarkand to collect rice seed. Unsuccessful. Visits of various people offering their services.
- 18 In Yarkand. Seeds bought, excursion out in the country; cuttings obtained of various fruit and ornamental trees. Negotiated about the purchase of different varieties of rices.
- 19 In Yarkand. Seeds bought. Visit of Chinese Magistrate. Left at noon. Stayed for the night in Sherabazar.

December

- 20 Left at 8:30 A.M. A heavy snow had fallen. Flooded the whole day through and stayed for the night in Akrobad, a very poor place.
- 21 Left at 7:30 A.M. More snow had fallen. Flooded the whole day through and stayed for the night in Toplich, a very poor place.
- 22 Left at 7 A.M. Flooded through heavy snow until 2 P.M. when we reached Vengi-kissar. There was bazar that day but nothing new in our line was to be found.
- 23 Left at 9 A.M. Traveled whole day through snow-covered country, arrived at dusk in a Kirgiz town, called Shagran-bazar and stayed there for the night.
- 24 In Shagran bazar. Obtained cuttings of yew-tree, grapes and apricots. Left at about 11 A.M. Arrived toward evening in Dzh-malah, and stayed there. Collected some seeds.
- 25 Obtained cuttings in Dzh-malah, left 10 A.M. Traveled the whole day and arrived at 7 P.M. in Igel. Stayed there.
- 26 In Igel. Received plates of the produce of the town, talks about products of the locality, flora of the neighboring mountains. Saw some branches of the silver-barked birch and of a Juniper. Collected cuttings of fruit trees.
- 27 In Igel. Went again of various cuttings. Left at 11 A.M. Walked the whole day; made camp at sunset;

1194.

boiled tea water and milk, started to sleep near our fire when Kirghis men came and invited us to come to their tents. Wild ride in the cold, dark night to Kirghis camp and pleasant receipt. Stayed there; the region is called Dabstan Parak.

28 In Dabstan Parak. Traveled on in the wild and rugged mountains. Saw groves of Picea Schrenkiana, and Juniperus sp., etc., collected seeds and cuttings of various plants.

29 In Dabstan Parak. Traveled in the mountains again. More difficult and harder collection. A fine fall-less valley reached.

30 Left Dabstan Parak at 9 A.M. A heavy snow had fallen during the night, which whole day through the desert and arrived at 6 P.M. in the city of Ural. Stayed there in the night.

31 Left Ural at noon. Traveled all day. Arrived at 6 P.M. in Tagatchok and stayed there for two nights in a wilderness, cold, heavy frost. Manager was only 4-6 hours away, but the night was cold and dark and even now horses too thin.

END OF PRELIMINARY REPORT.

Lahgar, Chinese Turkestan,

January 17, 1911.

Dear Mr. Fairchild:

Enclosed please find my accounts for the past quarter, (October, November, December, 1910). As you will see, there appear two currencies in use in the same country, but the accompanying explanatory note will, I hope, shed sufficient light upon this curiosity. Will you kindly draw this to the attention of those having those accounts laid down in case some difficulties should arise.

Trusting that everything reaches you in good condition, I remain

Respectfully yours,

WILLIAM F. FAIRCHILD.

Explanatory note in regard to the currencies of Chinese Turkestan.

The unit of money in nearly the whole of Chinese Turkestan is the two-fine or 'ashgar' taal, either in coin or as lump silver. The value of this taal is about 10 American cents but it fluctuates slightly every day; it is divided in two ways, one ten decimal and each tenth part is called a 'loce', but also in a non-decimal way, viz., in 'cash'; 100 cash making one taal and 10 cash one 'loce'.

In those cities of Chinese Turkestan where Russian influence is strong, like in 'Ashgar' for instance, there is also Russian currency in circulation and the only Russian unit-

lishments, like the post office and the customs house- refuse to accept Chinese currency, while the Russian bank pays out only in Roubles, referring to native money-brokers to exchange it into Rupees.

As such two different currencies will appear in the accompanying accounts. The salaries and subsistence of both the Russian-Turki and of the Chinese interpreter were paid out in Roubles, leaving it over to them to obtain as favorable an exchange as possible, whenever Russian currency was not accepted. This agreement had been made with them before they entered Chinese Turkestan, as it saved worry and inconvenience on both sides.

Trusting that this explanation may be sufficient,
I am, Gentlemen,

Respectfully yours,

FRANK W. FLETCHER.

Ashgari, Chinese Arkistan,

January 11, 1911..

Dear Mr. Fairchild:

After lots of difficulties with customs house and postal authorities here, I was able at last to send off this morning 19 parcels to the American Consul, Mr. Jacob Conner, in St. Petersburg and I am requesting him to forward them to you at his earliest opportunity. These nineteen parcels contain 117 packages of cuttings, scions and budwood of various fruit and ornamental trees which I collected on my last journeys here. They are numbered 801 to 906 inclusive. I enclose herewith a set of inventory notes giving about all the information I was able to collect about this material. Some numbers, however, come in for some special mentioning, viz.,

Well, first a few general remarks. As you know I arrived here in Chinese Arkistan toward the end of October and nearly all fruits were finished then, therefore I had no opportunity to find out myself what ex.actly of the things I have collected were really anything out of the ordinary. In taking cuttings or scions I had to trust to those informing me and--may I tell you that Orientals do not always handle the truth very carefully. It may come, therefore, to pass that several of the fruits will not be considered very superior to what we have already in the United States.

Well, there are many peaches, nectarines and apricots among this shipment. We probably won't have the stock at hand to bud every single one and so I suggest to take 1/2 dozen or 10 pieces of each number. Some of these apricots, nectarines and peaches may be hardier and more drought resistant than existing varieties in America and may be experimented with in the more northern regions.

Of the various plums and runos, I would like to see some sent to Prof. W. S. Medrick at Geneva, New York, who writes a monograph on them.

Prunus tomentosa, Nos. 313, 314, 897 and 898, may be experimented with in the northern regions of the United States and some of the budsticks might be sent to Ames, Iowa, to be budded on Amygdalus Davidiana or on various sp. of Prunus.

I am sorry to have to disappoint those people who believe that grapes or pomegranates could be successfully grown without protection in the more northern climates. As you see from the inventory notes, they are buried in winter here in Turkestan. Of course, in my own opinion, that doesn't alter the thing a bit, in fact the more care one has to take of a thing, the more one loves and appreciates it and this covering up in winter of grapes, pomegranates and figs can certainly be experimented with in those sections of the United States where the sun's heat is great enough to ripen the

fruits and the wood, but where the cold or wilt is great enough also to kill the wood back again, if not artificially protected.

The two numbers of Salix (869 and 870) are interesting. I suggest to ask Prof. Loomis's opinion in regard to the distribution of them.

Among the various willows and poplars there are some rare varieties and they ought to be distributed to various places. Those coming from the cooler regions of the West, like nos. 873, 874, 877, 881, 882, 883, 887 might in part go to Ames, to Prof. Sargent, to the Arboretum in Ottawa or some other places where they will be appreciated. No. 884, Populus alba var. is a variety of burly or bird's eye growth. Mr. Kirkpatrick in Texas somewhere makes a specialty of such trees.

Then there are the numbers 891, 892, 893 and 894 which are all very good things and ought to come in for an extra share of good treatment. No. 891, a strange plum, may be new!

Although we have produced others, the one sent under No. 899 is able to stand considerable cold and great summer heat.

The various others, nos. 900, 901, 902, and 903 might be given to a competent nurseryman for propagation, also some I would like to go to Prof. Sargent.

The two numbers of Caragana, No. 904 and 905, may also be of interest to Prof. Sargent, besides the variety at Ames.

And the last number, 906, Asparagus s., is probably both of interest to Mr. Norton and to those interested in growing more ornamental plants in the drier sections of the United States.

No. 850, a mulberry, I wish to see disposed of through Mr. W. B. Fisher, who is specially interested in them.

The pomograntes, Nos. 862, 863 and 864 are something extra here in Chinese Forester, I wonder how they will compare with those we have already.

Well, that is about all. Hoping everything reaches you in good condition, I am

Yours respectfully,

WILLIAM B. FISHER.

1161.

[illegible]

January 20, 1911.

Date: _____

Chinese interpreter to assist him in visiting and receiving the Chinese officials and obtain their assistance in procuring horses, carts, guides, supplies, etc.

And now that matters stand this way, I have decided upon another route, viz., to go from here to Tarinsk and then work my way through the well-wooded valleys of the Kere-aul and the Kara-Kidja, where a similar vegetation is said to exist as in the Valdai and Angara valleys, though less luxuriant. Wild apples, lums and other things, however, have been reported to me by some Russians, who were there a few years ago. Following the Kara-Kidja I will come out in Gushant and from there there is a good road to Andishan, where I am at the railroad again. Some time since from St. Petersburg, allowing me to travel in Russia. My passport has expired and I have telegraphed to the Governor General at Tashkent for a renewal, through the Russian Consul General here, Mr. J. W. Gordon, and I have been expecting an answer all these last days.

I probably will have to go from Andishan straight to Tashkent, and have an audience with the Governor General there, asking him to give me permission to explore the Ghotchap, the Issak and the Abulatour regions for the various wild fruits. After that then to proceed to the Tashk-aul regions and from there I could start my way along the Altai up to Irkutsk and from there come, by way of Kiakta and Urga, down to Peking and start then up the Yellow River valley as far as Lanchow.

There is a third plan yet, viz., in case I should not get the permission to go by way of Xinjiang and India, I could go with my Russo-Turki interpreter and the assistance of an experienced native guide, from here to Aldja, across the Tianshan, make my headquarters there for some time and then proceed to Chugutchak at the Siberian frontier, where foreigners are allowed to cross without special permits and then proceed either over Semi-palatinsk or by way of the Altai to the Trans-Siberian R. R. From where I might go east or west.

Now all these writings here are simply a prelude to what I intend to say, viz., the trip as mentioned under No. 1, is probably out of the question. It would have been an intermeddiate journey for so far as expenses are concerned.

Trip No. 2, which seems likely to realize at the present is a rather expensive one, as everything in Russian Turkestan is much higher than there in Chinese Territories.

Trip No. 3, the last, is probably the cheapest at the beginning and may turn out more expensive at the end.

And so all things taken into consideration the probabilities are that my travelling for the rest of the fiscal year 1910-11 won't be much heavier than it has been up to December 1910. Now as you may see from my accounts, the expenses for the quarter, July, August and September, 1910, have been (roughly) \$1225.00, for the quarter October, November, and December, 1910 (roughly) \$1456, or a total for the past half year of \$2680.00, or let us say \$2700. This means

\$5400 for the whole year. So in case nothing extraordinary or unusual should happen I will have again a balance of not less say \$500 upon which you may count with a good degree of certainty. I further will keep you fully advised how my financial matters are running in the near future.

Well, this is about all about the financial part, later on I will come back again upon that letter of November 7, 1910. Believe me to be, Mr. Fairchild,

Yours respectfully,

FRANK L. MEYER.

Kashgar, Chinese Turkestan,

January 21, 1911.

Dear Mr. Fairchild:

These last days I have only occasionally referred to the many letters I have been receiving from you, but now I hope to answer them in more detail. There are several reasons for not having responded sooner. The main one is that I have not been feeling entirely well these last times. We suffered a good many privations in our last journey, for the west or was cold and we had much snow and even here in Kashgar there is no good inn to be found and we had the first days pretty chilly and uncomfortable times. The foreigners living here cannot

accommodate hardly any guests in winter as they themselves suffer a good deal from cold and discomforts and so we have rented some rooms and furnished them as well as we could with our own and with borrowed furniture. My little trunks serve for chairs and tables at the same time, and a bedsheet covers up a large door, taken off its hinges, which serves as my "grand" writing table. The weather too, this winter here is very unpleasant, nearly every day a leaden sky, interchanged by snowfall every other day and only a few hours bright sunlight for a whole week. Nearly all of the foreign element here are out of sorts and some even seriously ill. Well, I have had now a stroke of it and both the Russians the Chinese interpreters are unwell. Then the troubles with these interpreters and guides! My! Kipling was right in saying: "Down to Gehenna or up to the Throne, he travels fastest, who travels alone." But one simply cannot do without him! You in civilized life have your stenographers and domestic servants, well - out in the wild lands have our interpreters and guides. Now I have for instance this Mr. Ming who has been treated so well by Mr. Sowers and by me; well, he positively does not want to budge at any more, he has been a awful lot of trouble on this last journey and prevented me in some cases from going more into the wilderness. And now I am afraid he surely will stay here and live a life of idleness away, until he has spent his last

topeck. Then we have my Russian interpreter. He is a Cossack. He has lived for 14 years in Yunnan and has learned Russian and Turki fairly well in that time; he has gotten it into his head to start some sort of a business of his own this spring and thinks he can make money with all sorts of things. When I had a native Uzbekistan guide with me from Andijan and expected he would take the place of Mr. Tirm, he spoke Chinese quite well, but--he got homesick and lost all ambition and energy (and these natives here haven't got too much of those things anyway) and I had to pay him off and let him go. By the way, in one of the back corners of this world of ours and so kind suitably one is like hunting for white rabbits. When foreigners who come here make the most of a bad job in this line of getting reliable assistants and I am doing likewise. You can give little ideas there in Washington that in time will grow up to have to get material done. Just now we are working out two weeks negotiating about getting different varieties of rice seeds.

It is also a strange matter that my permission to travel inside Russian Uzbekistan hasn't come as yet. Two weeks ago there was an Englishman here who was arrested immediately by the Governor General and was told to leave his baggage in St. Petersburg; arrived here for him. With some understanding, however, he was allowed to proceed as far as Andishan, all details of this case haven't been given out, of course. I wonder how they will treat me. Of course, my case is well known in the language of the administration of Russian Uzbekistan

photos with the slides; yes, I agree. I would've too liked to do so, but I will need to carry a lot of developing and printing outfit with me and will first need a course of instruction in all these matters. I am afraid these things are out of the question on this trip. Of late I have seen some developing and printing work by amateurs and it was really a pity to see the damage that had been done to otherwise good exposures, by faulty developing. As you may remember, I have also been in correspondence with Mr. Dorsett about these same matters.

Letter of September 16, 1910, with enclosure of list of species of Asparagus wanted by Mr. G. W. Norton for his breeding work. I have been always on the lookout for Asparagus and send you by the last mail also some pictures under No. 10. I have also some seeds yet to send.

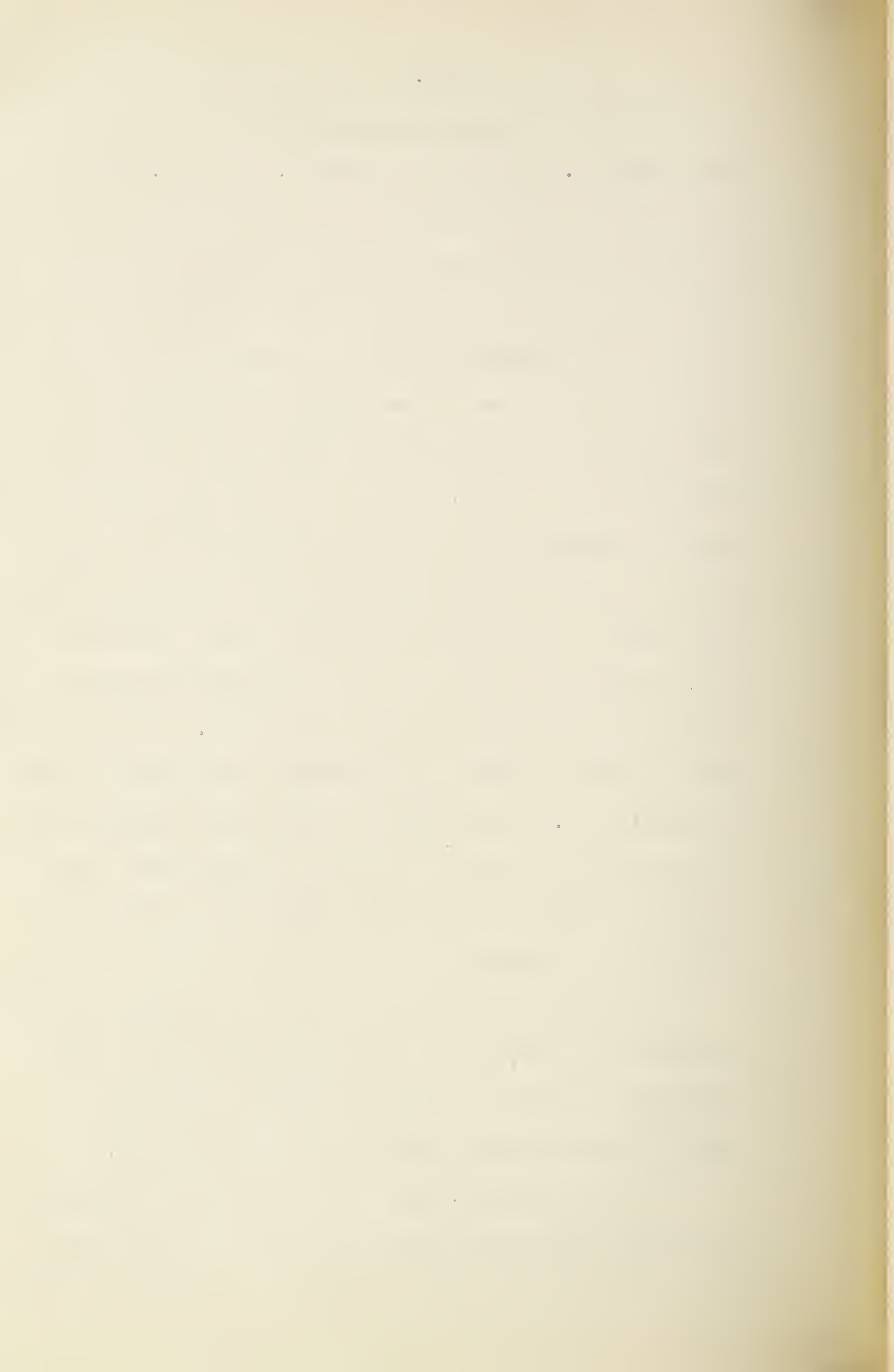
Letter of September 10, 1910, about the warrant for \$5000 which we didn't know then had been earned. Well, I got the new one O.K. Thank you for the February number of the Geographic Magazine with Mr. Forrest's article in it. Well, botanically it is decidedly uninteresting; ethnologically, however, it is quite nice, although similar tribes often live both in Sumatra and in Borneo. You say about Mr. Forrest referring to his activities as an explorer and that there is so much to be done yet in our line that we ought to enlist as many good men in it as possible. Please be somewhat more explicit and tell me in a next letter what sections of the world ought to be explored from our point of view! I count upon an answer for it also may affect my future travel!

About this Salicaria rigida, seeds sent under no.

1573a, photo no. 474, and how to grow it. Col. M. Kainitsky told me that he had the greatest success in sowing the seeds of all these Central Asian desert plants in autumn, in a moist sandy soil out in the open. During the following spring and summer the plants come up and when large enough, are transplanted that same autumn or next spring to their permanent localities and in transplanting one always has to count upon a fair percentage of loss. In case I myself only had a small quantity of seeds, I would sow them in flats, which had been slightly burned inside, so as to sterilize them and use a medium light, sterilized soil and sow them under glass, picking off the seedlings as they were old enough to be transplanted and put each one in a pot, and then in a sash frame. The localities where they will grow best, are, of course, those where the air is naturally dry. A treatment as is given young Eucalypti will in all probability also suit them, save that the seeds remain dormant much longer and that a much greater care in watering will have to be observed.

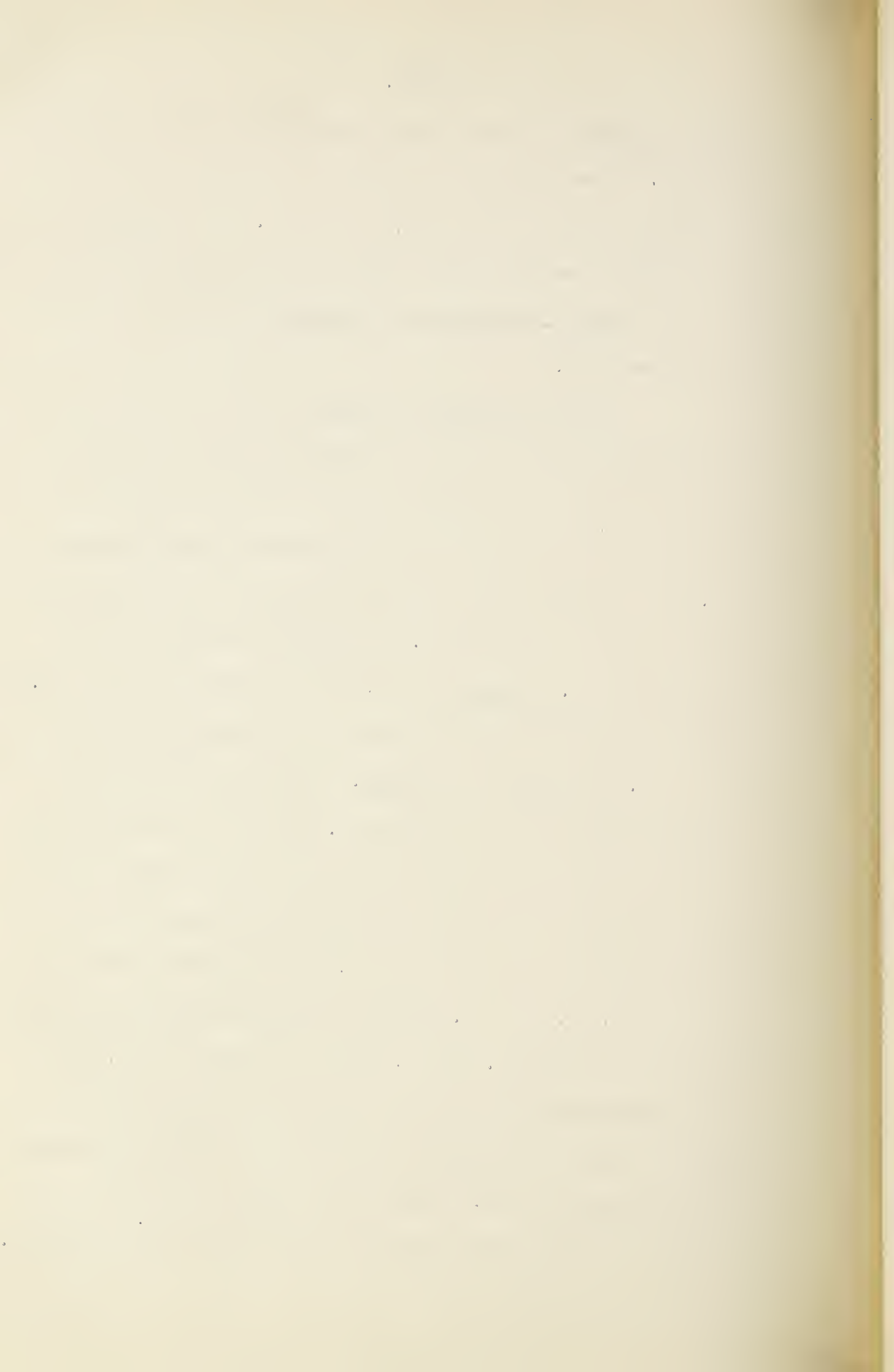
How much rainfall there occurs in the regions where the Saxaul tree grows, well, very little, not more than a few inches per year, but there is nearly always a considerable amount of subsoil moisture, where these trees grow best.

About this Capt. Peters in San Miguel and his growing some of these Central Asian sand binders; well, I would advise him to try the tenistes from the Canary and Madeira Islands and



Ulex europaeus and other coast plants from the Mediterranean regions. These Central Asian desert plants want a high summer temperature and a cold, dry winter. Some Lyciums and Australian coast plants might also suit Capt. Peters' idea; of these Cassals, Salsolas and Calli nuns I would not advise him to sow many.

Letter of October 3, 1910, about the sad fact that the wild persimmon stock from Cheng-li and Yangsi failed to grow. It seems very strange; for these things were some of my earliest introductions. I collected this wild persimmon No. 518 on February 20, 1906, that is almost 5 years ago, and sent them straight to Chico. I believe this fellow to be the original D. sinensis and Mr. Kuhn is right in wanting it. For moist, mild-wintered regions, it is probably better than either D. virginiana or D. Lotus. I found it wild in some copses between Yanghsi and Hanchow. The few plum-sized fruits which I found on the ground had all the seeds decayed in them and therefore I sent scions. Some people who may be able to send you seeds and scions are Rev. Alex. Kennedy in Yangsi, China; Rev. Dr. J. P. A. Smith, American Presbyterian Mission Shanghai, China; Sgt. W. E. Fells, Hanchow, China. All these people should have a tin tube sent to them with some kerosene and oil paper and a photo, No. 125 to show them exactly what you want. I may have a look in my unborn bulletin, I see something there about these white-barked persimmons.



Letter of October 12, 1910. About this corner-up

warrant for \$5000. Yes, that is rather a romantic affair.

If the newspapers get hold of it, they will make something sensational out of it, running like this, "5000 burned. Government explorer left stranded in far away Asia as a result. Relief soon to come, etc." I hope no other mail for me was burned at the same time. It gave Mr. W. a further perhaps also a scare when he got those cablegrams. Well, the duplicate warrant has come safely in my possession now, the Consular Letter being sealed with three seals and I have to cash it here if they can find such a via affiar here. I have been using my own money for all these months just like I have done so many times out in China. It was a good thing that I hadn't taken my salary out at all and also that those \$500.00 left over from last year were still in my possession. If it had not been for these two factors, I would have had to come to you for money from without.

I am very pleased that you have got on so well with the Secretary; it cannot be, of course, a complete report of what we have introduced, for the good work is getting along all the time, although a few small things have been lost. Yet our Secretary is especially anxious to get good things for the northwestern country. Yes, I am sure that there were no going to find many. There is no great promise made in the place of work with a climate similar to that of the lower Mississippi valley or any of the other parts of the

1173.

are to be found. In order to obtain a result will be almost
the only solution, breeding and improving on the lines of.
S. in Charles City, Iowa, is following for all these
years with no more success as Mr. Taylor and I have had to
and a few others etc.

Letter of October 24, 1910, from John L. ...
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Department of ... ; that ... it ...

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Letter of October 27, 1910, with ...
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1116.

Letter of November 1, 1915, to you, Mr. B.

For some time now I have been in search of the origin of
several kinds of Chinese domestic fowls of the breed
very closely resembling the "Lama" fowl. Well, I think we
are somewhat mistaken, for it doesn't get very cold here
and fowls do not suffer so much from lack of water, for
everything is irrigated and there is no difficulty in obtaining
water from the "Lama" fowl. And these fowls that are
found, like the "Lama", in the mountains and high up on the
side of the mountain. The great secret I really have found this fowl
belongs to the kind of fowl that is very common to
the whole of the power to withstand very dry heat and great
extremes of temperatures. And in agriculture we really may
expect some larger varieties, able to grow in various parts
of the world. I wrote some questions in this line in the
interimary notes which I sent you last week. I shall have a
look at them, in case you possibly are interested in
some of these things.

There is also a line in that letter of November 1,
1915, which I like to take up and now have some more, viz.,
"If there is so much of importance to be found in other parts
of the world, that we shall perhaps be able to find in
that region some little as to be said." I would like to hear
from you in a next letter which parts of the world you are
in mind. Please send a list of the places where you think
worth exploring from an economic-geographical point of view as



I hope to return information about it.

I see you also were ill for several days. Yes, that seems to be true. I begin to believe that there are few mortals on this world of ours who are not having those occasional spells of mental and of physical discomfort. That is one of the reasons men have made unto themselves in their imaginations, regions where nothing of this sort will be known.

About some photos of self and others. Well, we really did not vary much to the growth of time, but the 40 or so exposures I made I just sent off to St. Petersburg to have them developed and printed. Has anything appeared in American dailies or monthlies about our work in all that time I have been away now?

Letter of November 5, 1910, about sending freight bills, if possible. Up to the present I had to send them to the American Consul in London to enable him to get the shipment, but I will see whether they are willing to send them with duplicate bills.

Letter of November 7, 1910, in regard to this Mr. Stantz. Well, he surely is a marvel, speaking 11 languages. How did he learn them all? Has he been abroad? How high is his salary going to be? No. I didn't know Miss Goss had resigned. I thought she had taken a three months' leave of absence.

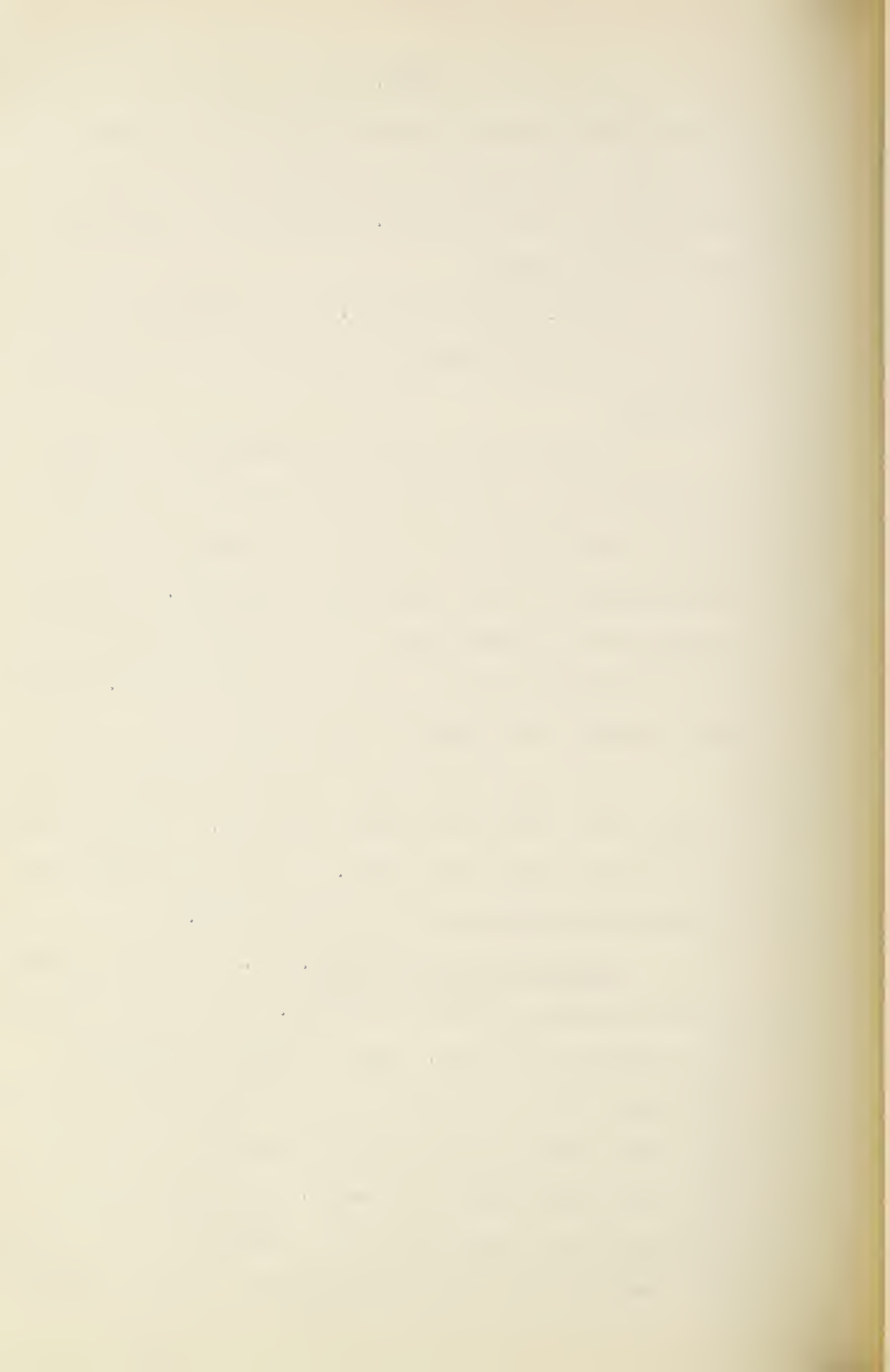
I also see that you say I had a surplus last year. I never received an answer upon the cablegram from Sunderland, neither on the letter in which I wrote you about sending this message. I suppose now, however, that you received both.

I also see in your P. S. that you are asking for a promotion for me, but with your shortness of money, how will that come about?

Letter of November 22, 1910, with enclosure of
one letter of introduction for me from Mr. Curt's to Mr.

W. F. Chesin. In case I should return to Tasikent, I certainly hope to see this gentleman.

I didn't know anything of the big Democratic victory in the States until I got your letter. Yes, I wonder what the influence will be upon appropriations in general and upon our plant introduction work in particular. Of course, in case appropriations should be cut down, so that this exploration part of the business should be suspended, for awhile anyway, then in case there is such a possibility, I would like of course to be fully posted sometime before so that I may look out for my own future. In case exploration could not be possible any longer, what sort of places are open in the United States where a fellow like me would be able to do some good work yet. I would not care to stay very long in Washington, as you know we will be going for and a mere propagating station, like ours at Boise certainly does not appeal to me. A plant-

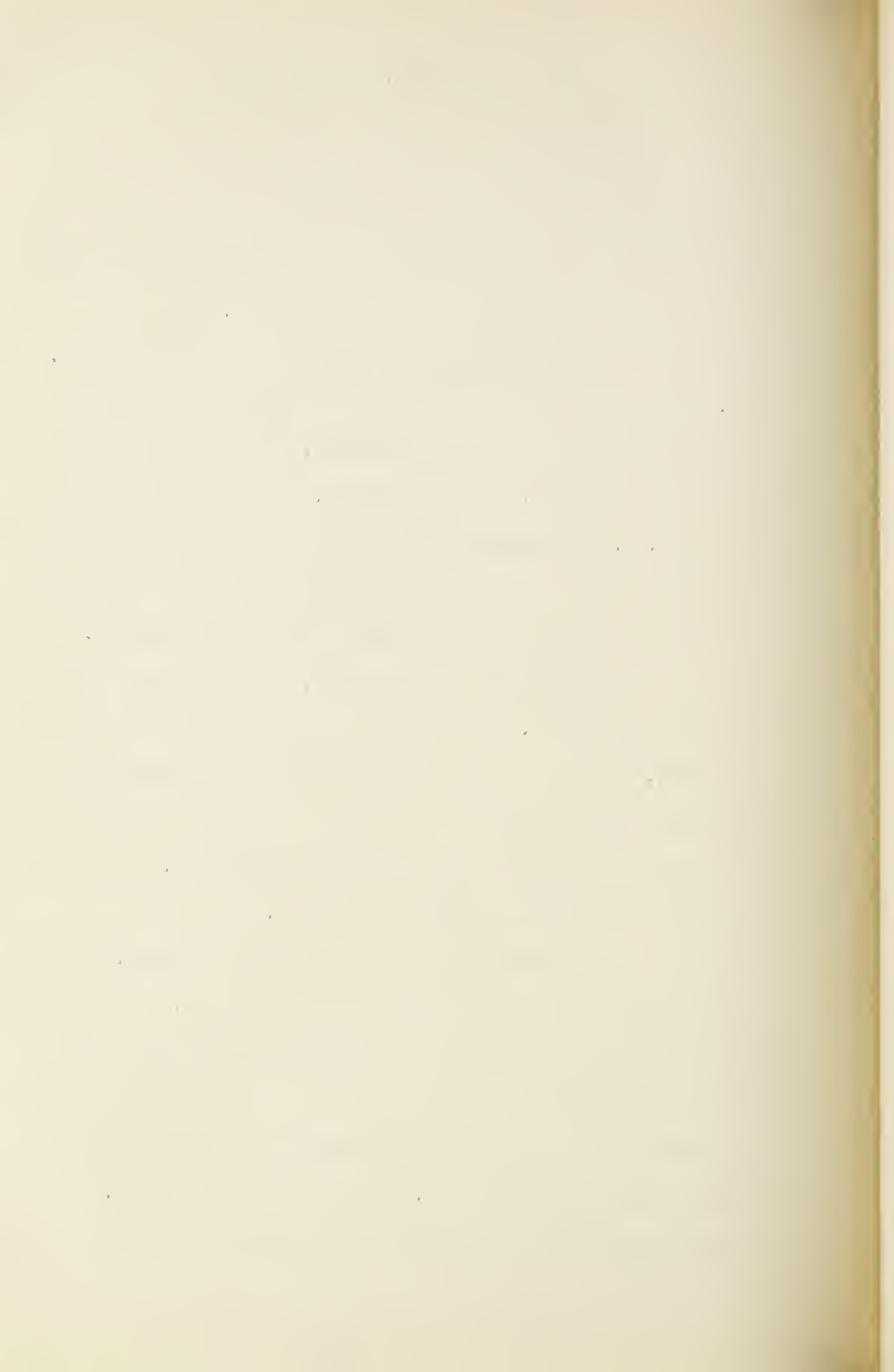


a good thing for Mr. Wright to have added a note whether some of the material I sent in was new to our herbarium or otherwise interesting or whether it was much damaged or not on his long journey. To a fellow out in the field such remarks are not only of interest but also of great value.

Letter of December 13, 1910, with enclosure of Mr. R. Rathbun's letter about having received fossils from me;
but--Samarland is not in the Caucasus! I return your letter to you and also Mr. Rathbun's letter. I also enclose a letter from Mr. J. de Mehell; those letters may be filed or destroyed, whatever the custom is to do in such cases. I also received a few letters with SAMARLAND spelled as SARHANA.

Letter of December 22, 1910, with enclosure from Mr. DeLong and Mr. Estely. I am glad to see that the balance of \$491.93 which I should have had to return in annual cases has been made available to me without all that trouble of getting it. I thank you for your assistance in it. I am also writing a letter to Mr. DeLong about it.

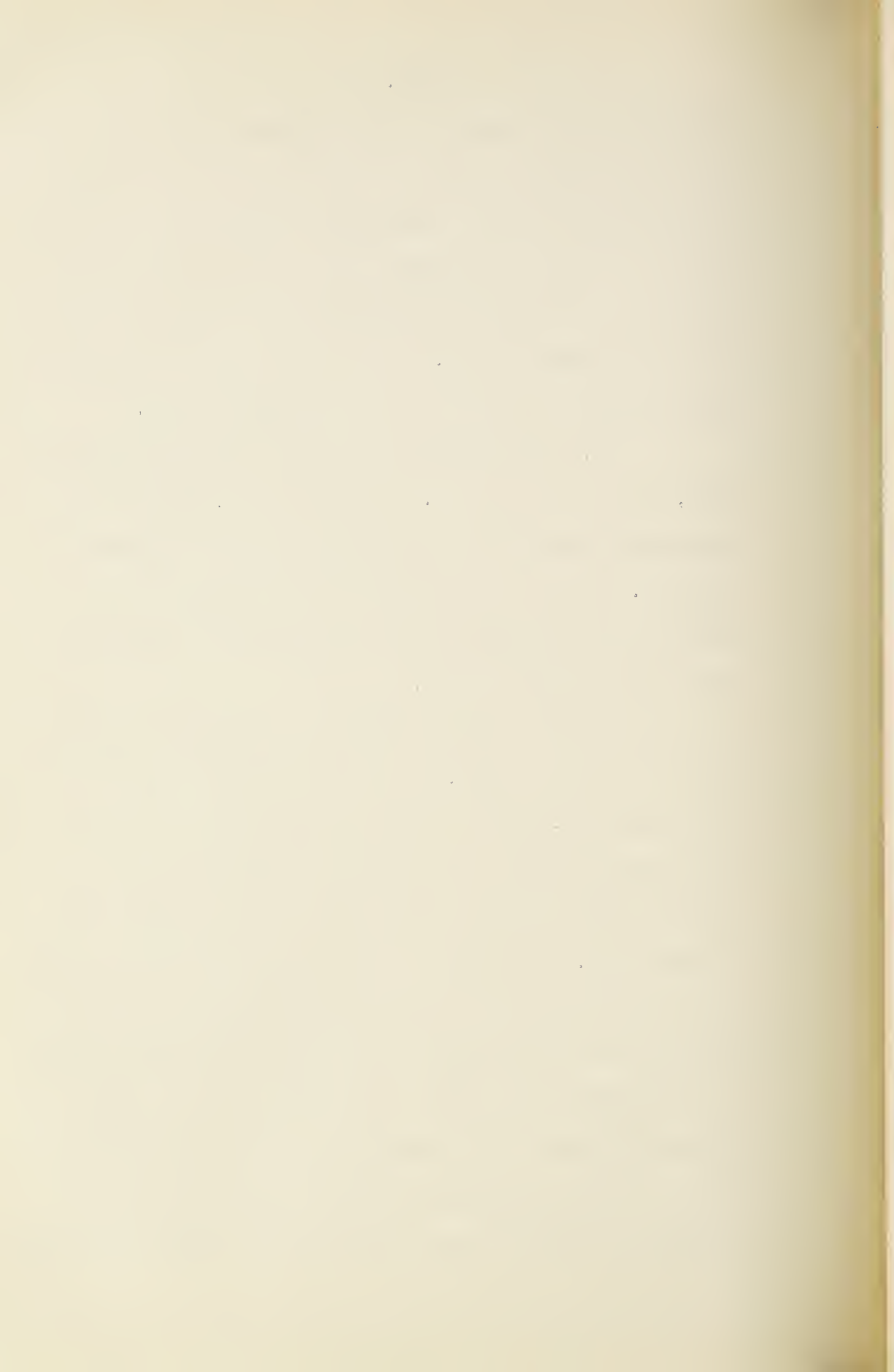
I also received several letters from Messrs. Dorsett and Cisset, which I will answer to them directly. In Mr. Dorsett's letter, however, of February 4, 1910, he mentions that my bulletin has not gone to the printer. I haven't heard for some time about that bulletin and I really don't know what is their report is. It seems strange that Mr. Dorsett's bulletin, who is so connected with the report-



sent, would have been published as quickly, while some of our own contributions cannot be printed. I hope to be informed by you about plans you or others may have about my writings. In case it cannot be published, then I would like to see a number of copies be made from it and sent to various people and experimental stations. I also would like to have one copy reserved for me and kept in a fire-proof place.

Mr. Wisset wrote me in a letter dated September 13, 1910, that both you and Mr. Corsett are enthusiastic about the prospects as a fruit for arid regions of the Chinese Sisyphus. Well, I am glad to hear so. I also saw your own remarks in your hurried personal letter dated 11 October 1910 and the original pencil.

I have a few more things yet to show you, but I will do that in a next letter. Now I have to make a suggestion for to you, viz., this. I feel that I am getting somewhat out of touch with you since our other letters, now, and several questions that I did in former letters haven't been answered yet. Now, I know of course, that you have on your lot of correspondence to attend to, but, my dear friend, an important bearing upon your work in general and now I suggest a simple remedy; viz., take a big envelope, mark in blue pencil "Major" upon it and have that day long letter put in it in one of your work drawers. Now every time you read one of my letters, while you are reading, just take a note sheet,



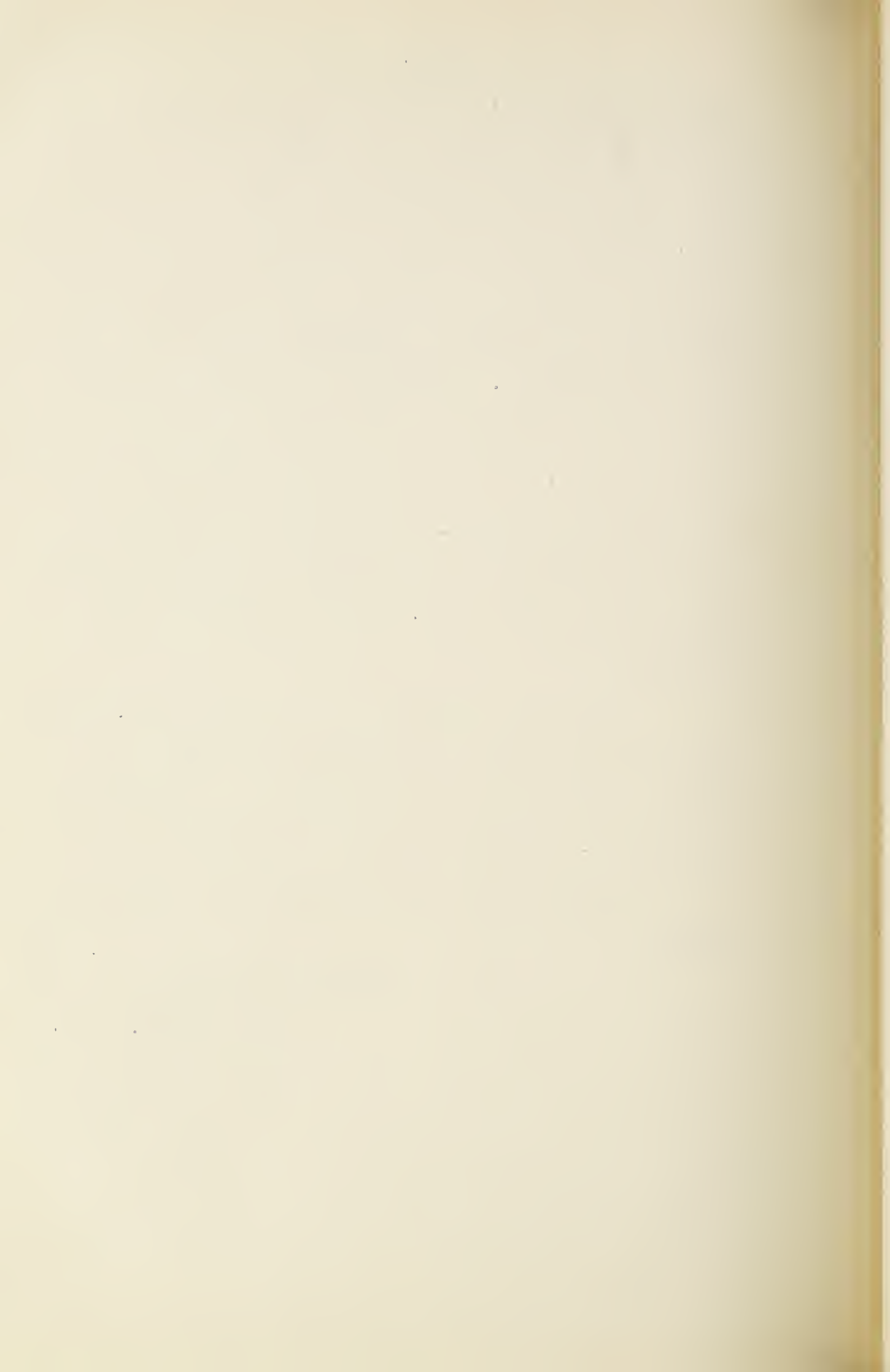
scribble something on it and put it in the envelope. And suppose you read something or talk some time and you say to yourself, well, now look here, I just ought to show this, just scribble it down again and put it in the envelope. Or you get a photo from Chico, or Brocksville or some other place where our interests are mutual, just try to put that also in the envelope. Or something in a newspaper strikes you as being of value to me, just scribble it and put it in the envelope. And now there comes a certain time that you feel in the right sort of a mood to write me, then you empty that envelope and having looked through all the notes, you write me a solid letter. What do you think about my proposal?

In a former letter I asked you whether Fred. Hanson was again in Berkeley. Did you get that letter? In this letter there are also a number of matters I expect from you an answer on. Well, this is then all for the present.

I remain, with best of regards also to all in the office,

Respectfully yours,

WILLIAM F. PERCIVAL.



1131.

Kashgar, Chinese Turkestan,

January 22, 1911.

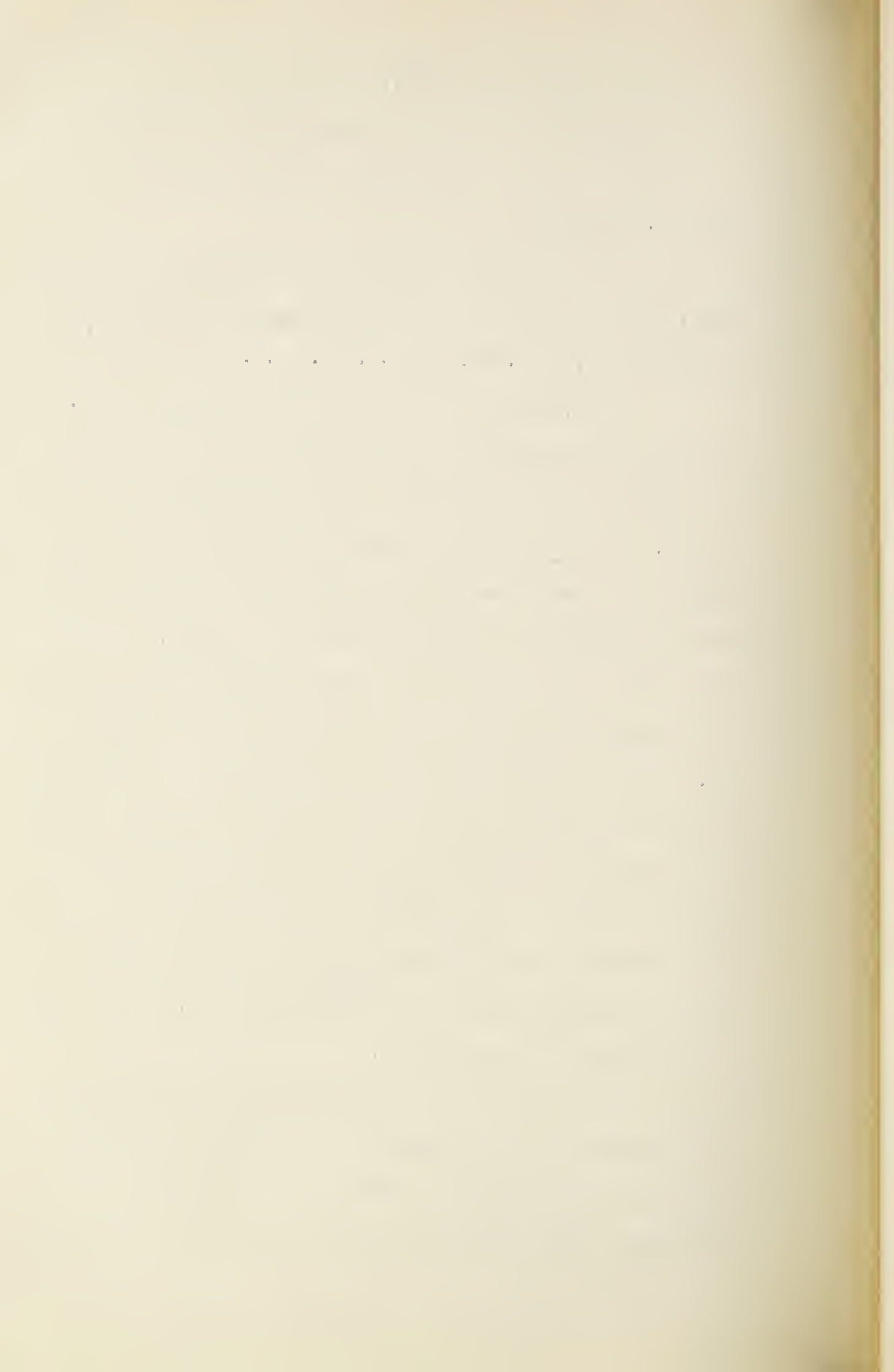
Dear Mr. Churchill:

A few days ago I received your letter of October 14, 1910, with the appendix to it Chinese Turkestan Exploration, Foreign Seeds, Acct. 60. - S.P.I. No. 60.1.

Well, this letter calls for some special answer.

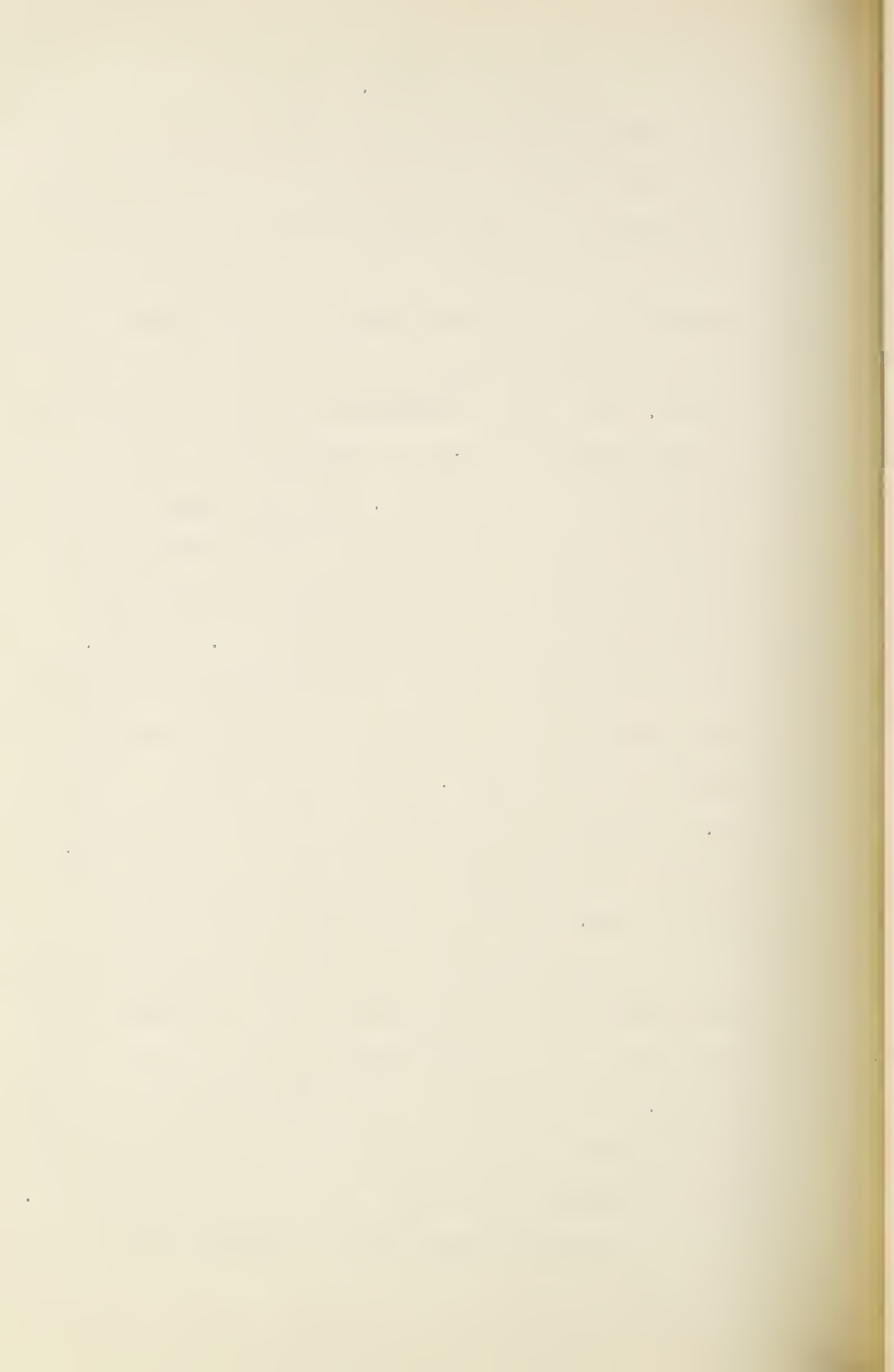
You say, in case you were in difficulties like I was there in Russian Turkestan, you would make a big jump to some other region. Yes, and what region would you take? I have also thought so a few times and have had in mind the Volga region; the Ural Mountains; the Altai in Southern Siberia, and the Lake Baikal region. In case I really couldn't have been able to proceed to Chinese Turkestan, I would have gone again to St. Petersburg, would have consulted specialists there on the floras and products of these various regions mentioned before and then would have gotten competent assistants and sent off, after I had been in correspondence with you about it, of course. Now, however, I am in Chinese Turkestan, a country somewhat like a cul de sac and have my difficulties here, too, of what I wrote you in a recent letter.

Now I see that the Northwestern country especially has to come in for a good share of new things. But--where are we going to get them from? There are not any longer many good new things left on this world fit to grow under rather adverse



conditions as are experienced in the Northwest. As I wrote you already, climatic conditions here are not to be compared with those of the Upper Mississippi Valley regions. We would have to go very much farther North for similar conditions. And then we got the Volga regions and Western Siberia to a great degree, also Manchuria and certain sections of Eastern Siberia. But -- with the exception of the first named region, I never heard of very striking novelties in the lines of fruits or remarkable new plants. Manchuria I went through pretty well and the things I got there have probably been tested here and there. A rather raw climate and a great variety of good things, never go together, in my child! Even the cherries and apples from Central Asia have in many cases been seriously injured in Iowa and other parts in the Northwest in past winters. So what are we going to do about it? In case the mountains here were clothed with vegetation, we might have found something good yet, but--they are singularly barren! Yes, I am aware that the greater part of plants coming from Asia find a more congenial home in California than anywhere else in the United States, but California cannot help that. It is the same case in the Riviera and in Southern England. Such regions are bound to become centers of a higher horticulture. It is not my unwillingness to get something good for the Northwest but it is my inability to find good things.

I see your remarks about the Issyk-Kul region. Yes,



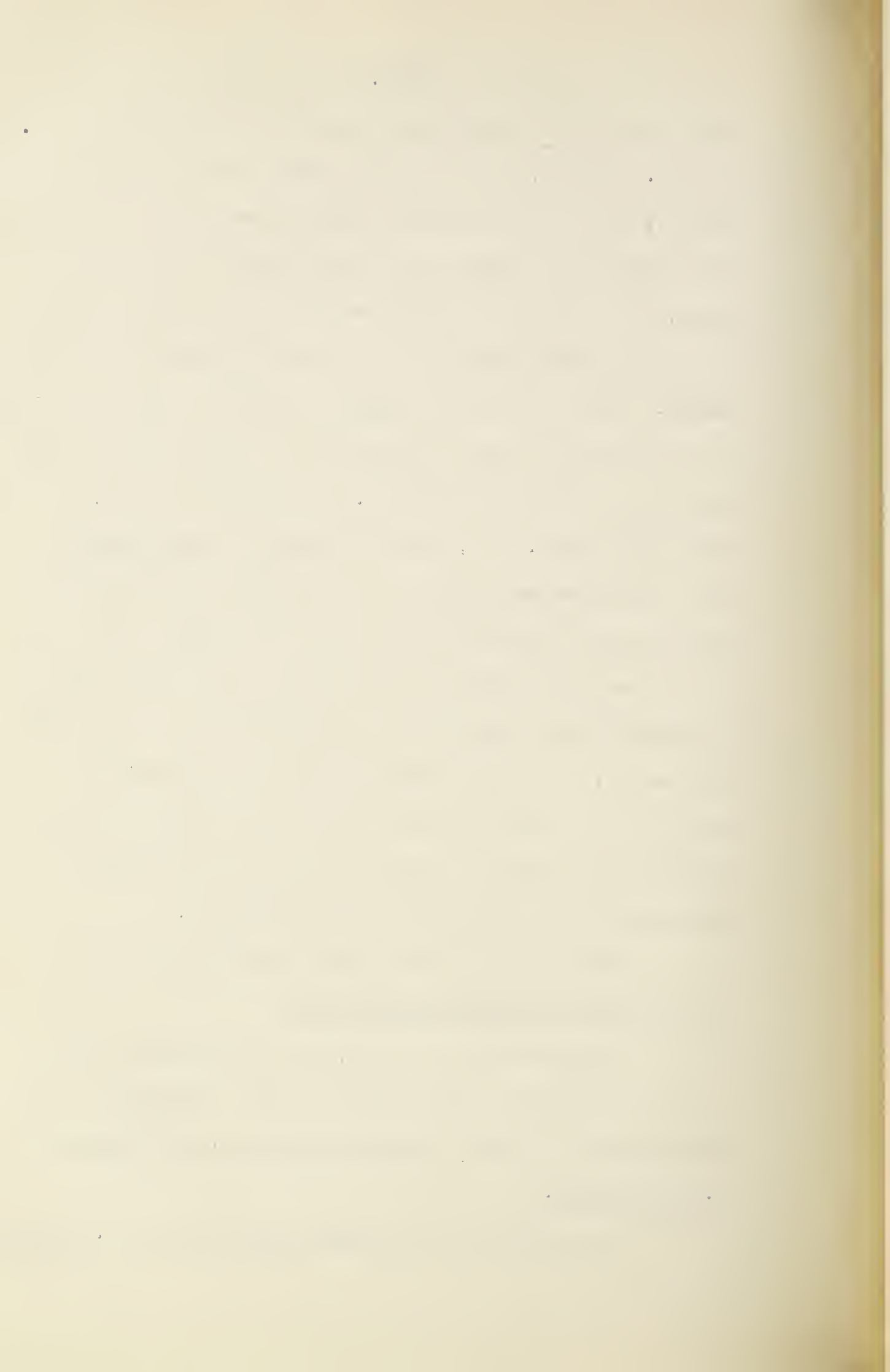
even there it isn't cold in the sense of the Northwestern country? However, that region is included in the plans I made up, and so are the Issere, Pchotkal and Ablatoune regions, where wild grapes, wild walnuts, wild plums and wild apples occur. But there it is not exceedingly cold and there seems to be much snow there in winter, covering up vegetation pretty snugly. And to give further proof a mildness of winter climate, I may mention that Oboas states that in the Issere valley wild pistaches and wild almonds occur! Rather bad prospects for very hardy things! For, those wild types of Vitis vinifera will never grow unprotected in the Eastern States or in the Middle West, it is not always the cold they object to, but it is the great moist heat of summer with very hot nights and changeable temperatures that make them so liable to all sorts of diseases. Gardeners, growing grapes in greenhouses all over the world, know too well mildew, blight and various other diseases of the grape and therefore it is that one always smells the odor of sulphur in these greenhouses.

Now, I will answer in brief various points in the project Chinese Farthest East Explorations:

Points 1, 2, 3, 4, 5, 6, 7, 8, 9, all agreed on.

Point 10. General plant list sent. Searchings. Have not been able to find yet Liriodendron; L. floribundum and P. heterophylla.

Have not yet found Medicago cancellata and M. platensis.



Have been in correspondence about both; the last is very much more promising as a fodder plant than the first.

Hardy olives of the South Crimea. Not the usual varieties, cuttings have been received in Washington.

Paradise apple from the Caucasus. Found them and sent cuttings under No. 768.

Ficus afghanistanica. No specimens of this to be found in the New Herbarium, while Prof. V. Lipsky, the great Russian specialist on Central Asian plants, told me that it is only a variety of the ordinary fig, Ficus carica. It grows in very temperate regions, where wild pistache occurs. I have been in the mountains at the Russian frontier near Tash-Kent, but was not able to find a wild fig enough acquainted with the region to assist us in finding it.

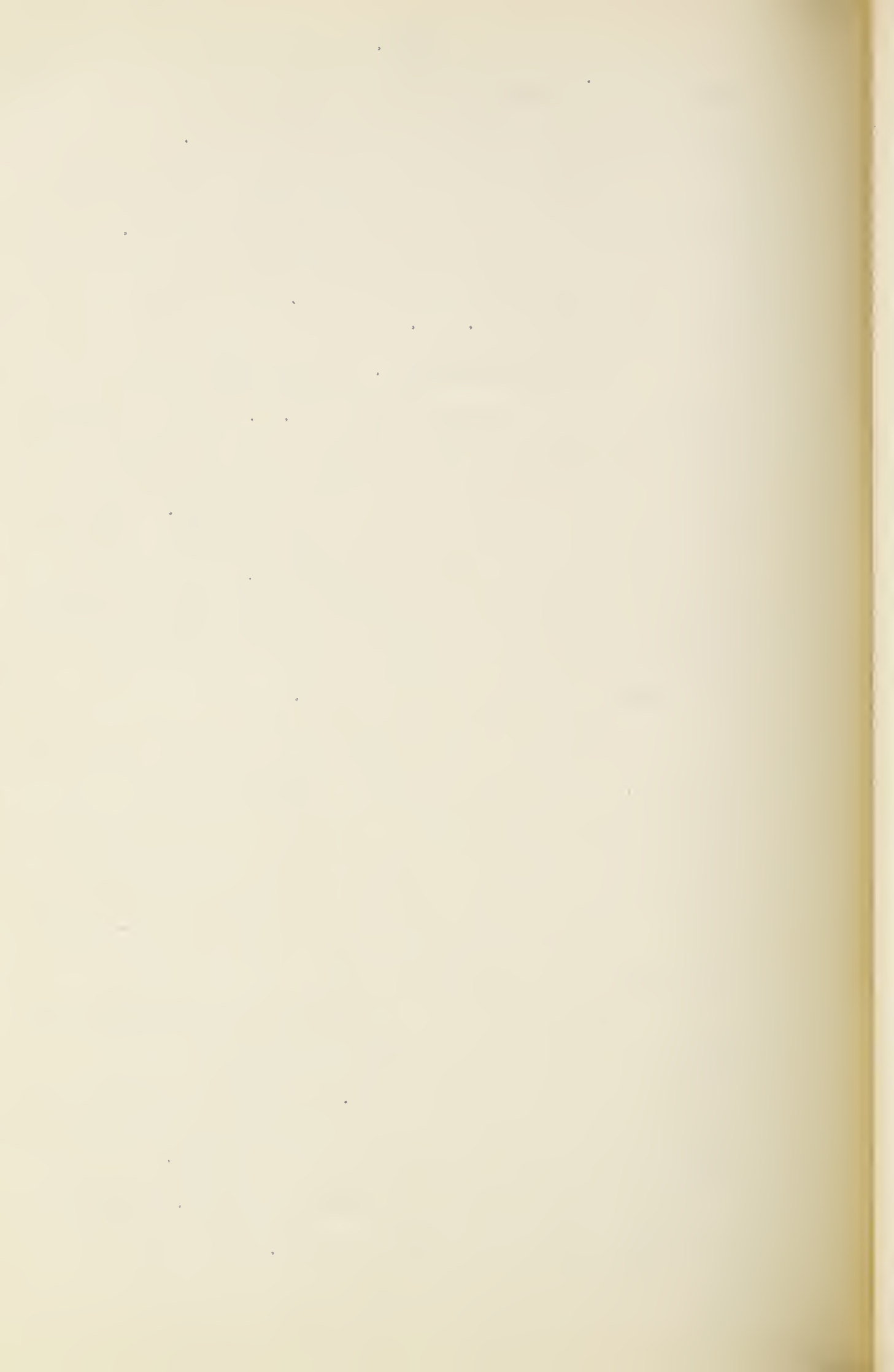
Forests of wild pistaches at Samarkand near the Persian frontier. Had a very incompetent interpreter with me, who could not be relied upon and also there were some political difficulties in the way, therefore did not make that search.

The fruits and seeds in the case of Samarkand. Examined them, sent a report and also seeds.

Wild almonds in the Karakorum Valley near Samarkand. Found them, sent seeds and herbarium material.

Wild pistaches in the Karakorum Valley. Found only a few; sent herbarium material, seeds and ripe fruit.

Grain culture in the Karakorum Valley. Saw some of it, but it was too early to study the fruit.



Pistache forests in Bokhara. For political reasons or through aggressiveness of Russian officials was not permitted to enter these regions.

Valley of the Ishere to collect wild grapes and other wild fruits. Have not been there yet; intend to go there.

Thian-shan Spruce (Picea Schrenkiana). Have only seen it at one place and all seeds we collected were worm-eaten.

Tchirtchik mountains for wild apples, plums, almonds, apricots, etc. The Tchirtchik mountains are part of the Ishere region; haven't been there yet.

The apple region of Gusan. Never heard of it before. Will find out about it.

Allai Mountains for wild plums. Interpreter could not get a permit to accompany me and alone I could not and would not go.

Osh for wild pears and peaches. There are no such things known in Osh. Everything is cultivated and all under irrigation.

The Oases of Kashgar, Yarkand, Karghalik, Gura and Tokan. Visited them and collected all good things. Did not get to Keriya; Chinese interpreter unwilling and got reports also that nothing special was to be found, that was not also in Khotan. These oases are not extremely cold in winter. It very rarely goes down to zero Fahr. It is very hot in summer, however, and there is considerable alkali in the land.

The seedless grape of Iran. It is a so-called Kishnis or Suetana as called in America, seems to thank its qualities to the fact that it grows in a region a few hundred feet below sea level, where the summers are exceedingly hot, and the atmosphere remarkably dry. The plants are grown in rows, the branches trailed over the earth, they are regularly irrigated and in winter are covered up with dry soil, like all grapes are in Chinese Turkestan. Iran is between 40 and 60 days by cart from Kashgar and most of the way is through an exceedingly unprofitable country from a collector's point of view for it is nearly all irreclaimable deserts. (I. S. Dry grape culture in the Salton basin on lines suggested here!)

Lake Issyk region. (Kul means lake in the Turki language). To find various ornamental shrubs, wild fruit trees and wild forage plants, s.o. Policypa file 10 and P. platycarpa. Have not seen them yet, but hope to collect them.

Thin Shan regions, with the valleys of the Yulduz and the Kunges for various wild fruits and ornamental shrubs. This is an enormous territory, and very inaccessible while the flora is not rich in species. May go there, but have to make special arrangements for a long sojourn; have not found suitable men as yet, willing to remain to any length of time.

Well, Mr. Whitwell, this is a rather solid letter in the way I take the word solid. I probably will hear some more about matters, except forward news. The class Mr. Smith should be with us, please have him look up the things of our trip,

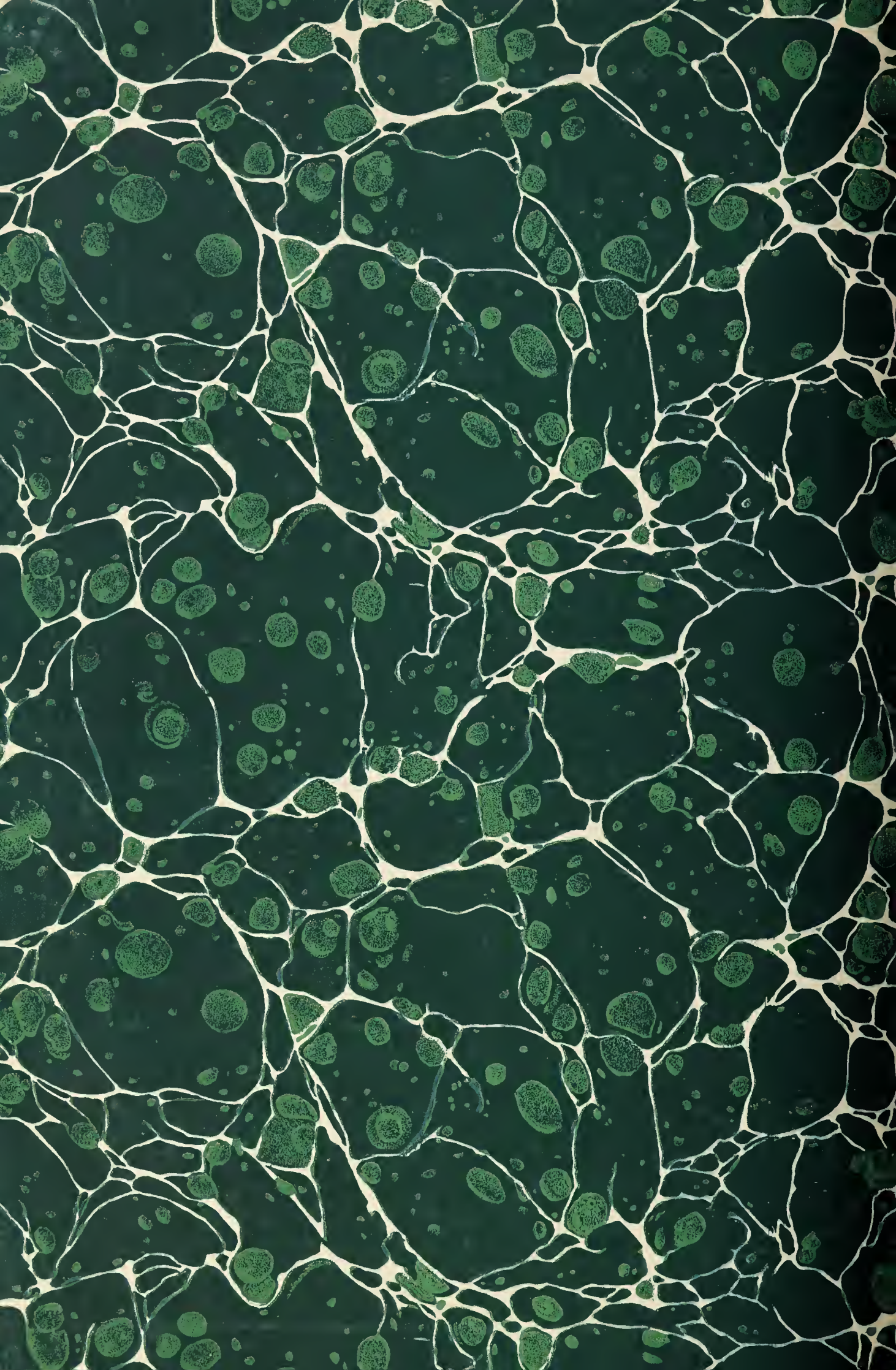
Altai, and Lake Baikal regions from an economic, botanical point of view. The names of cereals are not wanted, but those of trees and shrubs, of forage and ornamental plants are, of course, what we need. Also the names of fruits that are cultivated in these alpine regions, in case such things are mentioned.

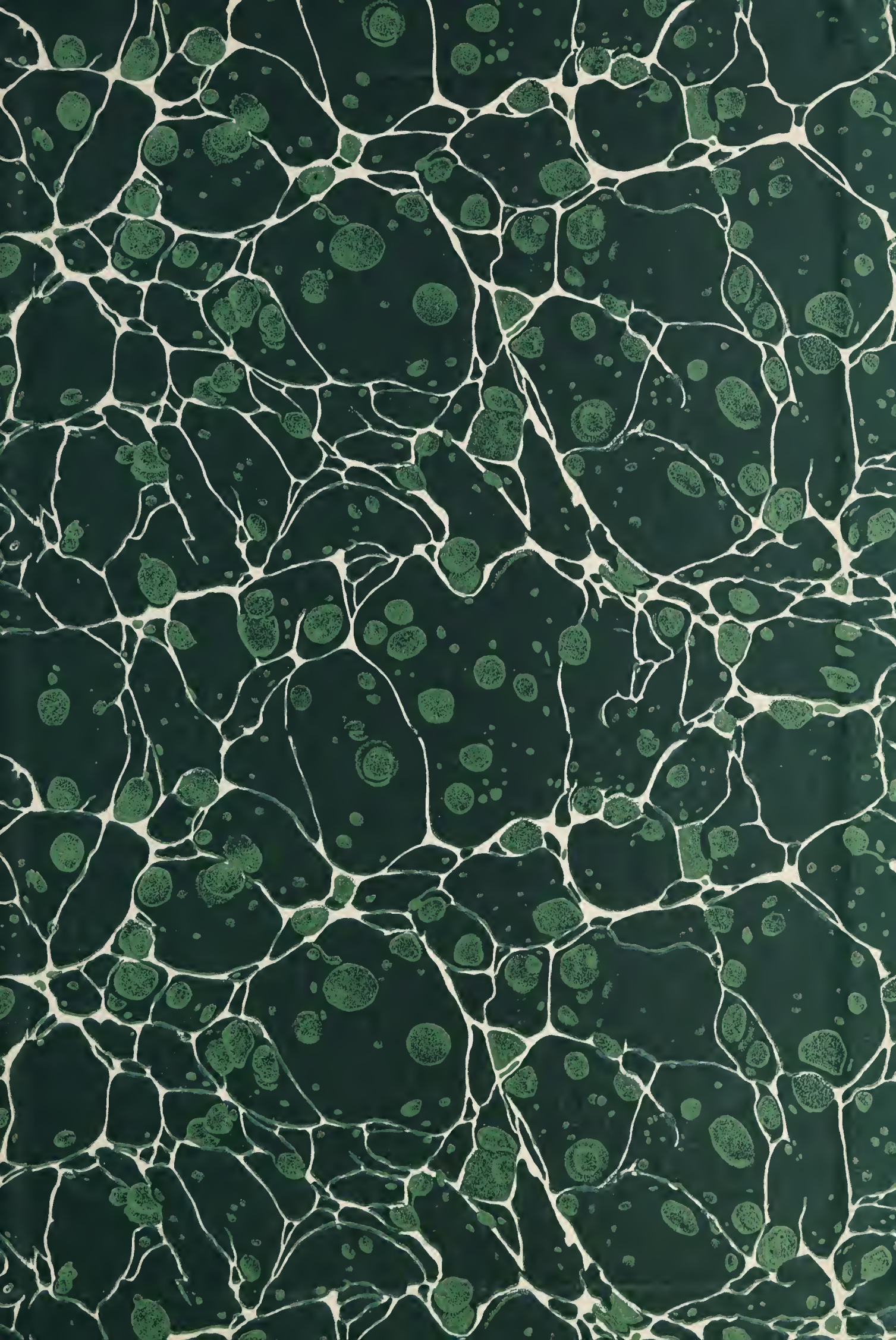
I have been informed here by the Russian Consul General, Mr. S. W. Sokov, that there are valleys in the Altai Mountains with wonderful vegetation, like the Bugh Barna valley and the Tarka-kul region. Dr. Messelring in St. Petersburg also told me about the Tarka-kul locality and said there grew a very fine sort of currant. And last, Mr. Ernest Parkinson of Sochava who has been in the Altai told me that for forage plants he thought the Altai was one of the finest regions he had seen and for fruits Persia. So maybe we find in the Altai more than around these desiccating, dreary, regions here. And here with I will close.

With kind regards to you all, I remain

Yours respectfully,

FRANK E. MAYER.





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